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PARTS CATALOG

for

WRIGHT WHIRLWIND ENGINES

MODEL J-5

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WRIGHT AERONAUTICAL CORPORATION
PATERSON, N. J., U. S. A.

WRIGHT GUARANTEE

WE WARRANT each new engine manufactured by us to be free from defects in material and workmanship under normal use and service and proper installation; our obligation under this warranty being limited to making good at our factory any part or parts thereof which shall within ninety (90) days after delivery of such engine to the original purchaser be returned to us with transportation charges prepaid and which our examination shall disclose to our satisfaction to have been defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale of our engines.

This warranty does not cover any labor charges for replacement of parts, adjustments, repairs, or any other work done on Wright engines.

This warranty shall not apply to any engine which shall have been repaired or altered outside of our factory in any way so as, in our judgment, to affect its stability, or which has been subject to misuse, negligence or accident, or which shall have been operated at a speed exceeding the factory rated speed.

We make no warranty whatever in respect to ignition, starting devices, generators, carburetors, or other trade accessories, inasmuch as they are usually warranted separately by their respective manufacturers.

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WRIGHT AERONAUTICAL CORPORATION

Paterson, N. J.

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GENERAL INFORMATION

Description of Catalog

This catalog lists and describes the parts for all Whirlwind Model indicates those which are interchangeable. PARTS OR ASSEMBLIES NOT LI STOCKED OR SUPPLIED.

The arrangement of the catalog avoids cross reference by grouping all parts a to their functions and by listing together all types of each part. Parts listed witho qualifying description are used on *all* Model J-5 engines.

Drawing Numbers are used exclusively in the catalog to identify parts. Drawing Numbers are used exclusively in the factory to identify parts and dealers are requested to identify parts in their stock rooms by DRAWING NUMBERS ONLY.

The "R" or reference numbers are used only to assist in locating a part in the text after it has been found in an illustration.

The table of contents at the front of the book shows the method of grouping the parts and the sequence of the groups. A comprehensive index is at the back of the book.

Owners of Whirlwind engines will be supplied with pocket size catalogs at no charge provided the owners write direct to the factory giving the serial numbers of their engines. To non-owners, the pocket size catalogs will be supplied at $ .60 each.

Wright Parts Dealers will be supplied with one registered catalog in a substantial 8½" x 9" loose leaf binder at no charge. Additional registered catalogs will be supplied at $3.50 net each. Registered catalogs are kept up to date by the issuance of new sheets covering price and engineering changes. No charge is made for this service to the holders of registered catalogs.

Prices

Prices are subject to change without notice, although the policy of Wright will be to give advance notification to Wright Parts Dealers and Approved Service Stations.

Prices listed here are f.o.b. Paterson, New Jersey. Wright Parts Dealers will sell parts f.o.b. their places of business at prices not to exceed those published here, making no additional charge for transportation from the factory or for handling.

Parts marked by an asterisk are sold to Wright Parts Dealers at the net prices given in Parts Catalog Price Supplement; all other parts are subject to the Wright Parts Dealer's standard discount.

Parts marked by a "Q" can be obtained in package lots generally at a reduction in price. Standard package sizes and prices are listed at the end of the catalog.

PARTS OR ASSEMBLIES LISTED WITHOUT PRICES ARE EITHER OBSOLETE OR ARE NOT SOLD AS LISTED EXCEPT UPON SPECIAL ORDER. SINCE SUCH PARTS ARE NOT STOCKED THERE IS A NECESSARY DELAY IN SHIPPING.

GENERAL INFORMATION—Cont'd

ght Parts Dealers with established credit, all parts are shipped by C.O.D. . Parcel Post or by freight with Sight Draft attached to Bill of Lading.

Order

ight Parts Dealers can make considerable savings in transportation charges if stock n quantities are properly controlled to enable orders to be placed for freight shipment. Numerous small rush orders are expensive and indicative of lack of good business practice.

Description of Part								Drawing Number			
Yearly Sales	19	19	19	19	19	19	19	Maximum	Minimum	Stock Room Location	Selling Price
First Half											
Second Half										Cost	
Number of Parts Used per Engine for Each Model								Remarks:			
Model											
Number of Parts Used											

Date	Order Number		Ordered	Received	Sold	Balance On Hand
	Factory	Dealer				
Order This Card Under Drawing Number 21531						

Date	Order Number		Ordered	Received	Sold	Balance On Hand
	Factory	Dealer				

PERPETUAL INVENTORY CARD

Perpetual inventory cards showing proper maximum and minimum quantities of parts to be carried are of great help in ordering stock. A carefully maintained file of these cards is the best insurance against over and under stocking. A suitable card can be obtained from our Parts Department under Drawing Number 21531 at $ .60 net per 100.

How to Order

Parts must whenever possible be ordered by or through a Wright Parts Dealer.

To insure prompt handling, Wright Parts Dealers' orders should always be *typewritten* on the standard Spare Parts Order form and mailed in the special Spare Parts Order envelope. These forms and envelopes can be obtained by dealers at no charge under the following Drawing Numbers: 21683—Spare Parts Order. 21738—Spare Parts Order Envelope.

GENERAL INFORMATION—Cont'd

A part must be designated by a DRAWING NUMBER together with descriptive to give the factory a check on the accuracy of the Drawing *necessary to write the full catalog description of the part.* Do not enter the price the order. Be sure to give definite shipping instructions. If shipping instr omitted, we shall ship by express or parcel post.

Engine Classification

The alphabetical classification of different groups of Whirlwind engines (such as J-5A-b, J-5A-c, etc.) is not used in the catalog. Here, engines are classified solely by serial numbers. The following table will be of interest only to those who are accustomed to the alphabetical classification:

Wright Serial Numbers		Alphabetical Classification
Navy Engines	7070—7209	J 5
	7280—7284	J-5
	7284—7294	J-5*
	7352—7476	J-5A
	7477—7531	J-5A (c Series)
	7587—7611	J-5A (c Series)
	7772—7774	J-5A
	8597—8752	J-5A (c Series)
	9937—9995	R-790A (a Series)
	10911—10996	R-790A (a Series)
	11659—11674	R-790A (a Series)
Army Engines	7284—7294	J-5*
	7615—7626	J-5B
	7627	J-5C (a Series)
	7789—7961	J-5A (a Series)
	7963—8072	J-5B (a Series)
	8571—8596	J-5A (a Series)
	9376—9522	R-790A†
	9996—10069	R-790A†
	10091—10129	R-790A†
Commercial Engines	7239	J-5C
	7303—7351	J-5C
	7532—7581	J-5C (a Series)
	7628—7676	J-5C (a Series)
	7684—7771	J-5C (a Series)
	8073	J-5A (b Series)
	8074—8153	J-5C (a Series)
	8154—8570	J-5A (b Series)
	8929—9367	J-5A (b Series)
	9630—9936	J-5A (b Series)
	13593—13642	J-5A (d Series)

*Standard Navy engines diverted to Army. †New Government designation for J-5 engines.

Engine serial numbers are stamped on the name plates which are riveted to the lower part of the crankcase front section.

TELEGRAPH ORDERS

...ds are for telegraphic orders only. Begin telegram with shipping code as per

...plain English to designate quantity wanted.

...mple of Proper Code Order

Original message:

Ship to us by express two standard size cylinders with valves and two standard size, standard compression pistons complete with rings, piston pins and plugs.

Coded message:

YOWBA TWO ALMIP TWO ALOSI.

Shipping Code

YOWAR	Ship to us by Air Express
YOWBA	Ship to us by Express or Parcel Post
YOWDO	Ship to us by Parcel Post Special Handling
YOWEF	Ship to us by Freight
YOWFI	Ship to.....by Air Express and charge to us
YOWGA	Ship to.....by Express or Parcel Post and charge to us
YOWIN	Ship to.....by Parcel Post Special Handling and charge to us
YOWME	Ship to.....by Freight and charge to us
YOWOB	Ship to.....by Air Express C. O. D.
YOWRU	Ship to.....by Express or Parcel Post C. O. D.
YOWUL	Ship to.....by Parcel Post Special Handling C. O. D.
YOXAL	Ship to.....by Freight C. O. D.
YOXBO	Advise date of shipment of our order number (or date).....
YOXEN	Acknowledge receipt of this order and give shipping date

Confirmation

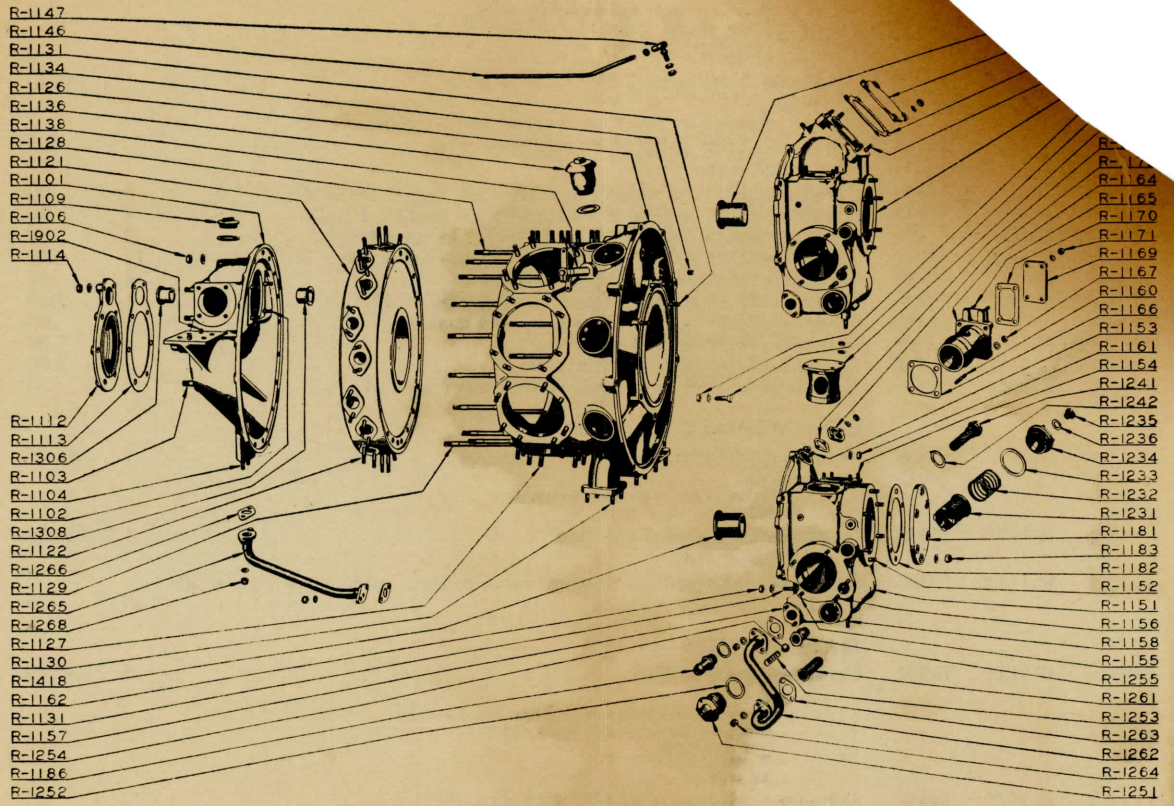
Always send a confirmation of telegram by mail. Confirmation should contain both coded telegram and translation.

Telegraphic Reply

If a telegraphic acknowledgment of an order is required, be sure to add the code word YOXEN to your order.

All telegraphic replies are sent at customer's expense.

			Description of Part	Number Used	Price Each
			CRANKCASE		
			FRONT SECTION		
		...0	Crankcase front section assembly	1	$387.50
			Includes: Cam drive gear and pinion assembly. Magneto drive gear and shaft assembly. Magneto dowel pins. All studs.		
		...-1101 40279	Crankcase front section	1	185.00
			Includes: Cam driving pinion bearing bracket with bushing. Two cam driving pinion bushings. Magneto dowel pins. All studs.		
AKSMO	R-1102	16390	Crankcase pinion mounting bracket stud (5/16" x 18–24 x 1¼")	4	.20
AKSNA	R-1103	18100	Crankcase front section cover stud (⅜" x 16–24 x 1 19/32")	8	.30
AKSOB	R-1104	18114	Crankcase drain pipe flange stud (5/16" x 18–24 x 1 3/16")	2	.20
AKSPE	R-1106	16782	Crankcase front section flange slotted nut (5/16" x 24)	14	.25
AKSSO		14995	Crankcase front section flange washer	14	.05
AKSTA	R-1109	18067	Crankcase front section inspection plug (1⅜" x 12)	1	2.00
AKSUC		14922	Crankcase front section inspection plug gasket	1	.03Q
AKSVY	R-1112	19640	Crankcase front section cover	1	7.50
AKSWU	R-1113	19564	Crankcase front section cover shim	1	2.70
AKSYB	R-1114	16988	Crankcase front section cover slotted nut (⅜" x 24)	8	.30
			INTERMEDIATE SECTION		
AKTED		13838	Crankcase intermediate section assembly	1	342.00
			Includes: Valve tappet and guide assemblies. All studs.		
AKTFE	R-1121	13538	Crankcase intermediate section	1	120.00
			Includes all studs.		
AKTGO	R-1122	19366	Crankcase intermediate section valve tappet guide stud (¼" x 20–28 x 1⅞")	36	.20
			MAIN SECTION		
AKTMA	R-1126	13534	Crankcase main section	1	380.00
			Includes: Magneto advance shaft and bushing assembly. Magneto advance shaft arms and rods. One dowel pin. Welch plugs. All studs.		
AKTNO	R-1127	14957	Cylinder hold-down stud (⅜" x 16–24 x 1½")	72	.25
AKTOD	R-1128	19584	Crankcase main section to front section stud, short (5/16" x 18–24 x 3⅞")	17	.45
AKTPA	R-1129	19585	Crankcase main section to front section stud, long (5/16" x 18–24 x 5⅜")	1	.50
AKTRI	R-1130	15781	Crankcase intake manifold stud (5/16" x 18–24 x 1 7/16")	12	.15
AKTSA	R-1131	19008	Crankcase rear section stud, drilled end (5/16" x 18–24 x 1 5/16")	5	.20
AKTTO		15807	Crankcase rear section stud, plain end (5/16" x 18–24 x 1 5/16")	1	.15
AKTUK	R-1132	14614	Crankcase rear section bolt (5/16" x 24 x 1")	2	.35
AKTVQ		14979	Crankcase rear section dowel pin (¼" x ½")	1	.07

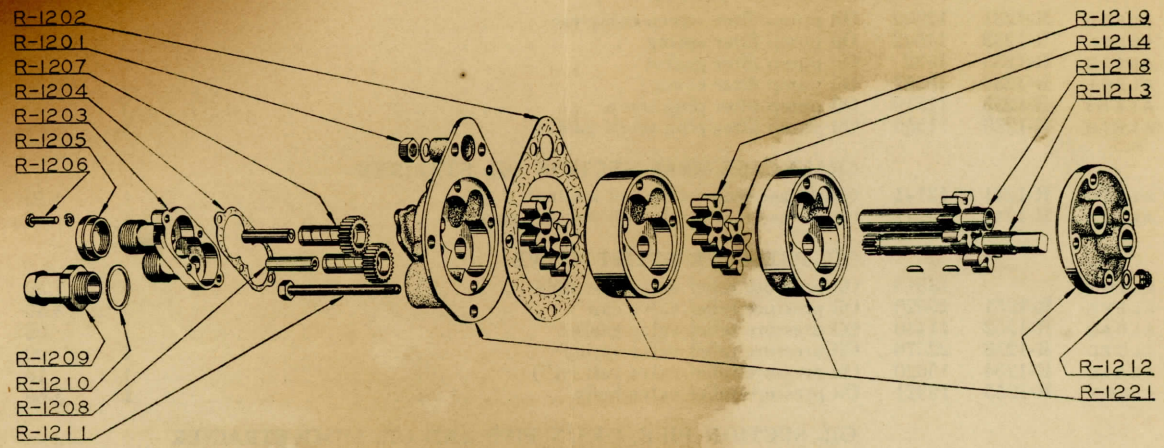


CRANKCASE WITH FITTINGS

			Description of Part	Number Used	Price Each
			CRANKCASE—Cont'd		
			MAIN SECTION—Cont'd		
		408	Crankcase primer opening pipe plug (⅛″)	3	$ .15
			Used when primer is not connected.		
		17222	Crankcase breather	2	2.70
		14922	Crankcase breather gasket	2	.03Q
		1138 12996	Magneto advance shaft support with bushings	1	3.40
		17240	Magneto advance shaft bushing	2	.75
			As supplied, I.D. is .409″; no reaming required on assembly.		
		16766	Magneto advance shaft bushing set screw	2	.12
KUDE		17241	Magneto advance shaft	1	1.40
AKUEH		17237	Magneto advance shaft lever, short	2	.30
AKUFU		19574	Magneto advance shaft lever, long	1	.30
AKUGO		17232	Magneto advance shaft lever screw	3	.05
AKUHI		17233	Magneto advance shaft lever taper pin	3	.03
AKUIB		19592	Magneto advance shaft only, right	1	.75
AKUJO	R-1146	19593	Magneto advance shaft only, left	1	.75
AKUKU	R-1147	17246	Magneto advance shaft ball joint	4	.25
AKULD		17235	Magneto advance shaft lock nut	12	.05
			REAR SECTION		
AKUSO	R-1150	40215	Crankcase rear section. (For engines with generator drive)	1	272.00
			Includes: Generator pinion shaft bushings. Crankshaft rear bearing. Breather cover plate. Oil suction filter tube assembly. Oil outlet connection. All pipe plugs. All studs.		
AKUTA	R-1151	40211	Crankcase rear section. (For engines without generator drive)	1	240.00
			Includes: Crankshaft rear bearing. Breather cover plate. Oil suction filter tube assembly. Oil outlet connection. All pipe plugs. All studs.		
AKUUK	R-1152	18449	Crankcase rear section starter cover plate stud (⅜″ x 16–24 x 1 11/16″)	6	.30
AKUVA	R-1153	14956	Crankcase rear section breather stud (5/16″ x 18–24 x 1¾″)	2	.15
AKUWI	R-1154	16635	Gun control cover plate stud (¼″ x 20–28 x 1 1/16″)	8	.15
AKUXO	R-1155	14953	Oil pump cover plate stud, short (5/16″ x 18–24 x 1¼″)	3	.15
AKUYE	R-1156	14955	Oil pump cover plate stud, long (5/16″ x 18–24 x 1⅜″)	2	.20
AKUZA	R-1157	18114	Crankcase rear section oil suction pipe flange stud (5/16″ x 18–24 x 1 3/16″)	2	.20
AKVAG		19008	Crankcase rear section to main section stud (5/16″ x 18–24 x 1 5/16″)	1	.20
AKVED	R-1158	17373	Carburetor feed pipe clip stud (5/16″ x 18–24 x 1 1/16″)	1	.15
			Used only when fuel pump is used.		
AKVIC	R-1159	16390	Generator mounting flange stud (5/16″ x 18–24 x 1¼″)	4	.20
			Used only for generator equipped engines.		
AKVOK	R-1160	14953	Crankcase rear section fuel pump adapter stud (5/16″ x 18–24 x 1¼″)	4	.15
AKVUN	R-1161	16782	Crankcase rear section flange slotted nut	4	.25
AKVXA	R-1162	14574	Crankcase rear section flange plain nut	3	.17

Code Word	Reference Number	Drawing Number	Description of Part		
			CRANKCASE—Cont'd		
			REAR SECTION—Cont'd		
AKWAH		14995	Crankcase rear section flange washer		
AKWEB	R-1164	13387	Fuel pump adapter with studs		
AKWIK	R-1165	14953	Fuel pump adapter to fuel pump stud (5/16" x 18–24 x 1¼")		
AKWOP	R-1166	17208	Crankcase rear section fuel pump adapter gasket		
AKWUF		14995	Fuel pump adapter washer		
AKWYK	R-1167	14574	Fuel pump adapter nut		
AKXAF	R-1169	19256	Fuel pump adapter cover plate	1	
AKXED	R-1170	18294	Fuel pump adapter cover plate gasket	1	
AKXIP	R-1171	14574	Fuel pump adapter nut	4	
AKXOX		14995	Fuel pump adapter washer	4	.05
AKXUK	R-1172	11137	Crankcase rear section breather cover plate Used from engine 7789.	1	1.75
AKXYL	R-1173	T-1092	Crankcase rear section breather cover plate gasket Used from engine 7789.	1	.02Q
AKYAK		14995	Crankcase rear section breather cover plate washer Used from engine 7789.	2	.05
AKYBI		14574	Crankcase rear section breather cover plate nut Used from engine 7789.	2	.17
AKYCA	R-1174	18228	Gun control drive cover plate	2	3.85
AKYDO		14931	Gun control drive cover plate nut	8	.15
AKYEP		14994	Gun control drive cover plate washer	8	.05
AKYFI	R-1177	20103	Crankcase rear section generator drive cover plate Used only for generator equipped engines.	1	2.25
AKYGY	R-1178	20104	Crankcase rear section generator drive cover plate gasket Used only for generator equipped engines.	1	.04Q
AKYHU		11705	Crankcase rear section generator drive cover plate washer Used only for generator equipped engines.	4	.05
AKYID		16782	Crankcase rear section generator drive cover plate nut Used only for generator equipped engines.	4	.25
AKYJE	R-1181	20076	Crankcase rear section starter drive cover plate The late type cover plate with six stud holes is supplied for all J-5 engines. The early type plate with three stud holes is discontinued.	1	2.75
AKYKU	R-1182	14981	Crankcase rear section starter drive cover plate gasket	1	.07Q
AKYLI		14996	Crankcase rear section starter drive cover plate washer	6	.05
AKYME	R-1183	14437	Crankcase rear section starter drive cover plate nut	6	.30
AKYNA	R-1186	14826	Oil pump to oil tank hose connection	1	1.75
AKYOB	R-1187	14711	Oil pump to oil tank hose connection gasket	1	.02Q

		Description of Part	Number Used	Price Each
		OIL PUMP SYSTEM		
		OIL PUMP		
	13012	Oil pump complete	1	$125.00
		Includes tachometer drive.		
1201	14574	Oil pump to crankcase nut	5	.17
	14995	Oil pump to crankcase nut washer	5	.05
R-1202	17203	Oil pump to crankcase gasket	1	.04Q
		Oil pump cover		
		Cannot be supplied separately. See 40160 (R-1221) below.		



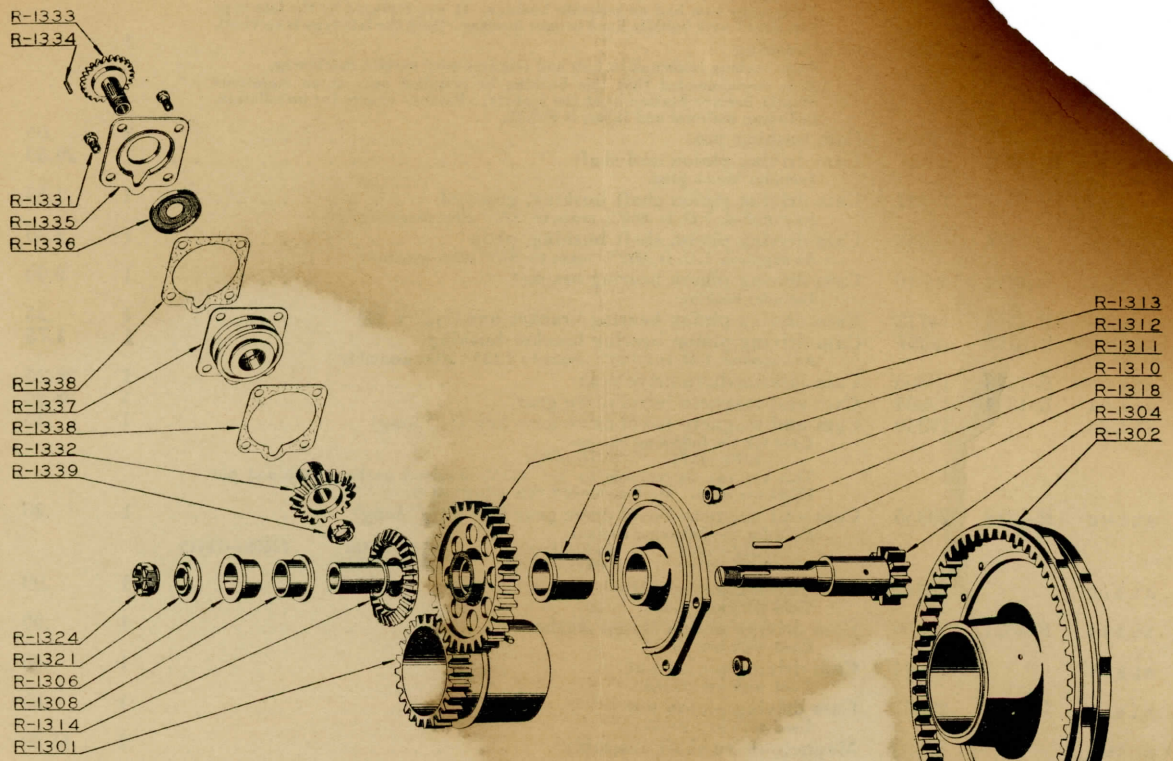
OIL PUMP

ALADO	R-1203	17205	Tachometer gear housing	1	6.20
ALAEK	R-1204	17269	Tachometer gear housing gasket	1	.03Q
ALAFU	R-1205	19065	Tachometer gear housing cap	2	.60
			Only one furnished with engine.		
ALAGE	R-1206	17231	Tachometer gear housing screw (10–32⅜″)	4	.05
ALAHA		17234	Tachometer gear housing screw washer	4	.02
ALAIG	R-1207	13011	Tachometer drive gear complete with slotted sleeve and Welch plug	2	7.85
ALAJU	R-1208	17268	Tachometer drive gear slotted sleeve	2	.80
ALAKE		18753	Tachometer drive gear Welch plug	2	.06
ALALU	R-1209	14826	Oil pump to oil tank hose connection	1	1.75
ALAMP	R-1210	14711	Oil pump to oil tank hose connection gasket	1	.02Q
ALANK	R-1211	17204	Oil pump bolt (¼″ x 28 x 3 7/16″)	4	.50
ALAOD	R-1212	15565	Oil pump bolt nut (¼″ x 28)	4	.20
ALAPA		14994	Oil pump bolt plain washer	4	.05

Code Word	Reference Number	Drawing Number	Description of Part		
			OIL PUMP SYSTEM—Cont'd		
			OIL PUMP—Cont'd		
ALARB	R-1213	17195	Oil pump drive gear and shaft		
ALASO		17209	Oil pump drive gear shaft Woodruff key. No. 3 special		
ALATA	R-1214	17198	Oil pump gear with keyway		
ALAUK	R-1218	17196	Oil pump idler gear and shaft		
ALAVY	R-1219	17197	Oil pump gear, plain	2	
ALAXE	R-1221	40160	Oil pump body assembly	1	
			Includes cover, two inner sections and end plate. These parts are ground and line reamed after assembly and cannot be supplied separately.		
			OIL PUMP FILTER		
ALBDA	R-1231	12932	Oil pump filter screen complete	1	1.50
ALBEK	R-1232	14642	Oil pump filter spring	1	.35
ALBFU	R-1233	B-32	Oil pump filter gasket	1	.04Q
ALBGE	R-1234	18057	Oil pump filter cover	1	4.70
ALBHI	R-1235	11819	Oil pump filter plug screw	1	.45
ALBIB	R-1236	11559	Oil pump filter plug screw gasket	1	.03Q
			CRANKCASE REAR SECTION OIL STRAINER		
ALBOD	R-1241	13141	Crankcase rear section oil strainer	1	4.50
ALBPA	R-1242	14711	Crankcase rear section oil strainer gasket	1	.02Q
			OIL PRESSURE RELIEF VALVE		
ALBWY		13519	Oil pressure relief valve assembly	1	7.50
ALBYA	R-1251	19320	Oil pressure relief valve cap	1	3.30
ALCAC	R-1252	11440	Oil pressure relief valve gasket	1	.02Q
ALCED	R-1253	22376	Oil pressure relief valve spring	1	.20
ALCIC	R-1254	15620	Oil pressure relief valve ball (⅝″)	1	.10
ALCOX	R-1255	19321	Oil pressure relief valve body	1	3.60
			OIL SUCTION PIPE, DRAIN PIPE AND OIL SUMP STRAINER		
ALDDE	R-1261	18121	Oil sump strainer	1	1.10
ALDEF	R-1262	13790	Oil suction pipe	1	9.65
ALDFY	R-1263	14907	Oil suction pipe gasket	2	.03Q
ALDGI	R-1264	14712	Oil suction pipe nut (5/16″ x 24)	4	.25
ALDHO	R-1265	13757	Oil drain pipe	1	12.45
ALDID	R-1266	14907	Oil drain pipe gasket	2	.03Q
ALDJU	R-1268	14712	Oil drain pipe flange nut (5/16″ x 24)	4	.25

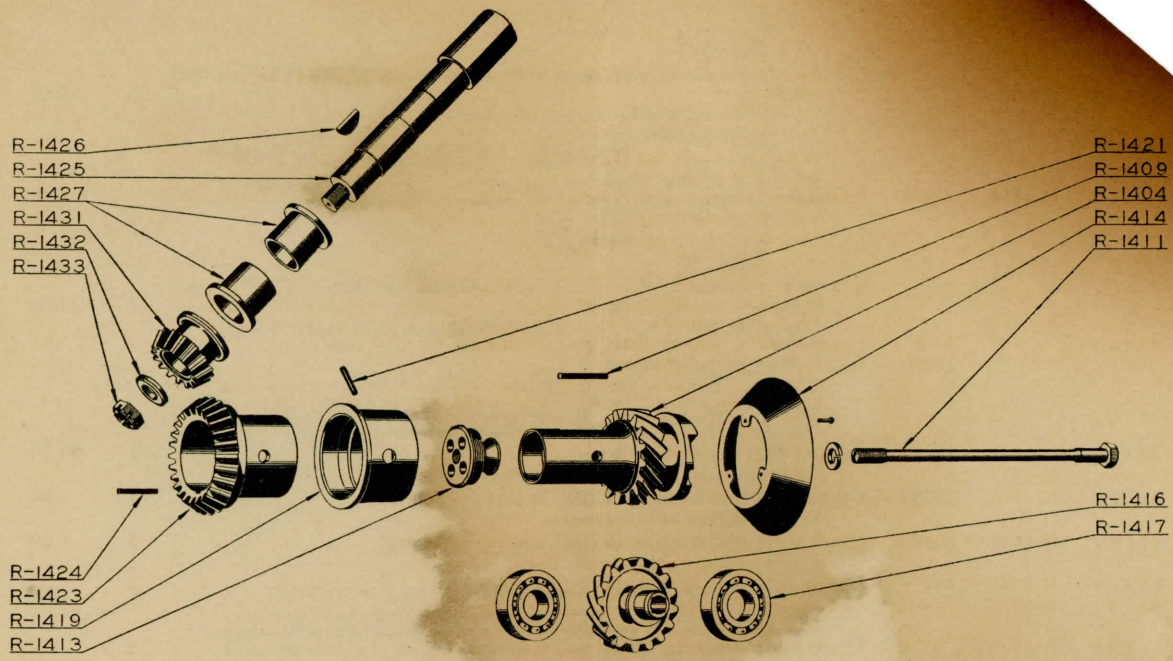
CAM AND MAGNETO DRIVE

			Description of Part	Number Used	Price Each
		19310	Cam and magneto driving gear	1	$ 34.50
		13914	Cam complete Early type cam had no separate bushing. It was replaced by the late type cam fitted with babbitt lined bronze bushing. Only the late type is serviced.	1	110.00
		20699	Cam bushing Cam bushing is shrunk in hub and requires very careful machining. It is recommended that this bushing be installed only at an Approved Wright Service Station or at the factory. Factory charge for installation, including material and labor, is $12.15.	1	
ALDWU		20789	Cam bushing pin	3	.05
ALDYB	R-1304	40587	Cam driving pinion and shaft Includes Welch plug.	1	29.50
ALDZE	R-1306	19342	Cam driving pinion shaft bushing, grooved As supplied, I.D. is .862″; ream to .875″ after assembly.	1	1.55
ALEAD	R-1308	19343	Cam driving pinion shaft bushing, plain As supplied, I.D. is .862″; ream to .875″ after assembly.	1	1.30
ALEBO	R-1310	40640	Cam driving pinion bearing bracket Includes bushing.	1	9.60
ALECH	R-1311	14712	Cam driving pinion bearing bracket nut (5/16″ x 24)	4	.25
ALEDY	R-1312	19307	Cam driving pinion bearing bracket bushing As supplied, I.D. is 1.115″; ream to 1.125″ after assembly.	1	1.75
ALEEP	R-1313	19305	Cam intermediate drive gear	1	26.25
ALEFA	R-1314	19304	Cam and magneto bevel drive gear	1	28.80
ALEGI		19346	Cam and magneto bevel drive gear key (7/8″ long) Used for the following engines: 7070—7271 7275—7351 This key can be replaced by key 20355 provided washer 19345 and nut 19344 are used. We recommend this substitution.	1	.20
ALEHE	R-1318	20355	Cam and magneto bevel drive gear key (31/32″ long) Used for the following engines: 7272—7274 9630—10069 10911—10996 13593—13642 7352—9590 10091—10129 11659—11674	1	.20
ALEID		19345	Cam driving pinion thrust washer Used with key 19346.	1	.90
ALEJA	R-1321	20356	Cam driving pinion thrust washer Used with key 20355.	1	.90
ALEKY		19344	Cam driving pinion nut Used with key 19346.	1	.50
ALELP	R-1324	20357	Cam driving pinion nut Used with key 20355.	1	.50
ALEMA		13699	Magneto drive shaft assembly Includes: Magneto bevel driven gear. Magneto drive oil slinger. Magneto coupling gear with shaft. Magneto drive adapter. Magneto coupling gear shaft key. Magneto drive adapter gasket. Magneto drive cover. Magneto drive gear nut.	2	41.00
ALENU	R-1331	14837	Magneto coupling screw (1/4″ x 20 x 9/16″)	8	.25
ALEOB	R-1332	18794	Magneto drive bevel pinion	2	16.50
ALEPU	R-1333	18719	Magneto coupling drive gear with shaft	2	9.30
ALERK	R-1334	17385	Magneto coupling drive gear shaft key	2	.20
ALESI	R-1335	18348	Magneto drive cover	2	2.70
ALETE	R-1336	19865	Magneto drive oil slinger	2	1.35
ALEUP	R-1337	18720	Magneto drive adapter	2	8.70
ALEVO	R-1338	18347	Magneto drive adapter gasket	4	.02
ALEWE	R-1339	V-758	Magneto drive gear nut	2	.45



CAM WITH CAM AND MAGNETO DRIVE GEARS

			Description of Part	Number Used	Price Each
			ACCESSORY DRIVE		
			For list of parts required to install generator drive, see page 2101.		
		287	Crankshaft accessory drive gear without jaw clutch . . . . . Designed for use with Wright hand starter and 17177 bolt. To adapt this gear for use with Eclipse inertia starter, use starter jaw clutch 19713 and 19712 bolt, which are listed below. To adapt this gear for use with Eclipse hand direct-geared starter, plug oil hole in bolt 17177 with a brass plug or substitute bolt 21657. Used for the following engines: 7070—7209, 7239, 7282—7614, 7627—7676, 7684—7774, 8074—8153, 8597—8752	1	$24.25
ALEYB	R-1404	21166	Crankshaft accessory drive gear with integral jaw clutch (4 7/16″ overall length) . . . . . Designed for use with Eclipse starters, all types. Used for the following engines: 8073, 8154—8570, 8929—9367, 9630—9995, 10911—10996, 11659—11674, 13593—13642 When used with bolt 21657, this gear can be used as a replacement for gear 19287 for the following engines. We recommend this substitution: 7070—7209, 7239, 7282—7614, 7627—7676, 7684—7774, 8074—8153, 8597—8752	1	27.50
ALEZU		20939	Crankshaft accessory drive gear with integral jaw clutch (4 5/16″ overall length) . . . . . Late Army type. Shorter than commercial gear due to type of Army starter. Used for the following engines: 7789—8072, 8571—8596, 9376—9522, 9996—10069, 10091—10129 When used with bolt 21657, this gear can be used as a replacement for gear 19287 for engines 7615 to 7626. We recommend this substitution.	1	27.50
ALFAF		19713	Eclipse starter jaw clutch . . . . . Used to adapt 19287 for Eclipse inertia starter.	1	11.65
ALFBU		19289	Crankshaft accessory drive gear key (1½″ long) . . . . . Used with gears 19287 and 20939.	1	.35
ALFCO	R-1409	20439	Crankshaft accessory drive gear key (1 11/64″ long) . . . . . Used with gear 21166.	1	.30
ALFCU		17177	Crankshaft accessory drive gear bolt (7 13/16″ long, hex. head) . . . . This bolt has an oil hole designed to lubricate the Wright hand starter. *If used without a Wright starter, the oil hole must be plugged* with a brass plug. If hole is not plugged, there will be a serious leakage of oil into the crankcase rear section which will greatly reduce the oil pressure.	1	3.60
ALFDA		19712	Crankshaft accessory drive gear bolt (9 5/32″ long, round head) . . . . Used with gear 19287 when 19713 jaw clutch is used.	1	4.50
ALFEX	R-1411	21657	Crankshaft accessory drive gear bolt (7 13/16″ long, hex. head) . . . . Used with gears 20939 and 21166. This bolt has no oil hole, otherwise it is same as 17177.	1	3.60
ALFFE		14939	Crankshaft accessory drive gear bolt lockwasher	1	.02
ALFGO	R-1413	19301	Crankshaft accessory drive gear bolt nut . . . . . Two types of this part have been used, the late type having a flared opening 1″ in diameter instead of the straight boss as for the early type. When overhauling engines, be sure to use the late type, discarding the early type. This is important. When assembling crankshaft, be sure that this part is not interchanged with front cheek oil plug 19302.	1	3.25



ACCESSORY DRIVE GEARS

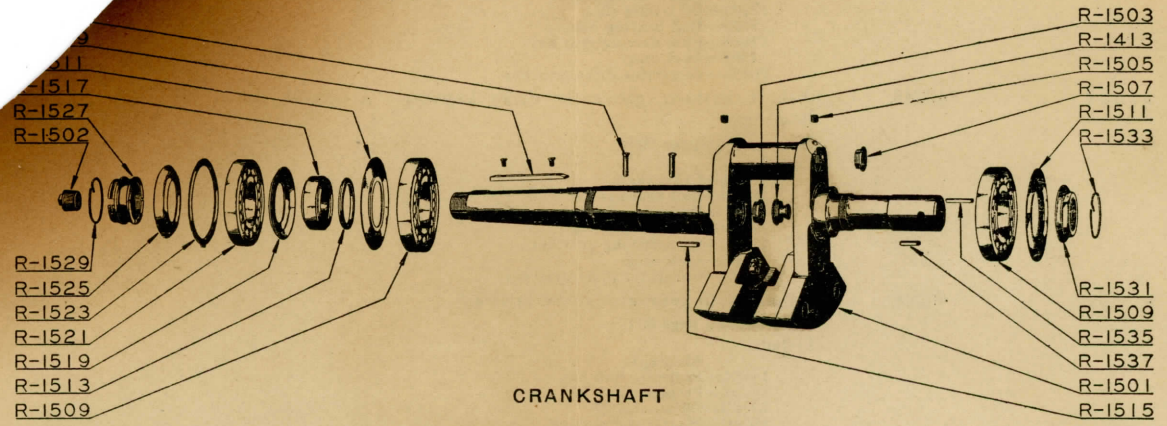
			Description of Part	Number Used	Price Each
			ACCESSORY DRIVE—Cont'd		
		20404	Crankshaft accessory drive gear oil slinger (center hole, 1¼″ diameter, no riveting lugs)	1	$ .50
			Used for the following engines: 7070—7209 7239 7282—7294 7477—7531 7587—7611 7772—7774 8074—8153 8597—8752		
			Used for the following engines only when they are equipped with Eclipse inertia starter: 7532—7581 7627—7676 7684—7771		
			It has been found that this oil slinger is unnecessary. It is listed to make our records complete.		
ALFIB	R-1414	21063	Crankshaft accessory drive gear oil slinger (center hole, 2¼″ diameter, with riveting lugs)	1	.50
			Used for the following engines: 7615—7626 7789—8072 8571—8596		
			It has been found that this oil slinger is unnecessary. It is listed to make our records complete.		
		K-26-C	Crankshaft accessory drive gear oil slinger rivet	3	.02
ALFJA		19987	Crankshaft gear retainer	1	
			This part serves as a spacer to take the place of jaw clutch on commercial engines that were not factory equipped with Eclipse starters. It is now obsolete and not stocked. Should replacement be required, use instead the short drive gear bolt 21657, omitting spacer and long bolt.		
				1	22.20
ALFKI	R-1416	17194	Oil and fuel pump drive gear	2	2.20
ALFLU	R-1417	6204	Oil and fuel pump drive gear shaft ball bearing	1	2.40
ALFMY	R-1418	19288	Crankshaft rear bearing (2.127″ inside diameter)		
			Used for engines without generator drive.	1	3.30
ALFNU	R-1419	20436	Crankshaft rear bearing (2.750″ inside diameter)		
			Used for engines with generator drive.	1	.06
ALFOZ	R-1421	18507	Crankshaft rear bearing pin	1	34.50
ALFPI	R-1423	20433	Generator drive gear		
			Used for engines with generator drive.	1	.30
ALFRA	R-1424	20439	Crankshaft generator drive gear key	1	51.00
ALFSA	R-1425	20434	Generator pinion shaft		
			Used for engines with generator drive.	1	.03
ALFSI	R-1426	20437	Generator pinion shaft Woodruff key		
			Used for engines with generator drive.	2	1.70
ALFTO	R-1427	20441	Generator pinion shaft bushing		
			Used for engines with generator drive.	1	27.50
ALFUD	R-1431	20435	Generator drive pinion		
			Used for engines with generator drive.	1	.10
ALFVO	R-1432	20440	Generator drive pinion washer		
			Used for engines with generator drive.	1	.40
ALFWY	R-1433	15882	Generator drive pinion nut		
			Used for engines with generator drive.		

Description of Part | Number Used | Price Each

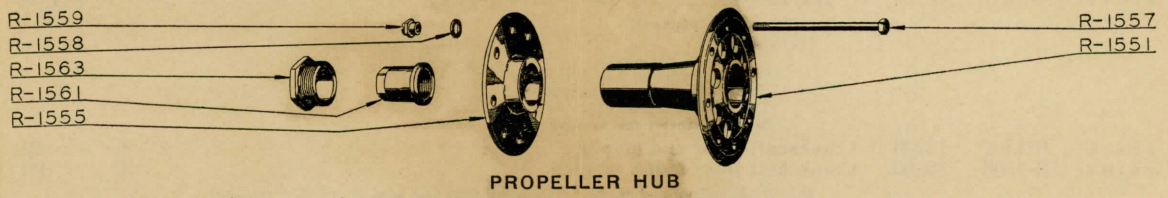
CRANKSHAFT AND PROPELLER HUB

CRANKSHAFT

Note that two types of crankshafts are supplied; one with a keyway for the generator drive gear and one without the keyway. These two shafts are not interchangeable; if the shaft with the generator drive keyway is used without the generator drive gear, serious trouble will be experienced in the oiling system.



CRANKSHAFT



PROPELLER HUB

For late Model J-5 engines, the strength of the crankshaft was increased by an additional amount of metal in the fillets where the crank pin joins the cheek pieces. This change necessitates new master rod bearings. The new bearings can be used with the early type crankshaft but *early type bearings cannot be used with a late type crankshaft.*

Only the late type crankshaft (with the increased fillets) is supplied and late type master rod bearings are included with each crankshaft. If the new crankshaft is to be installed in a late type engine, the new master rod bearings will probably not be required and can be returned to the factory for full credit if not damaged.

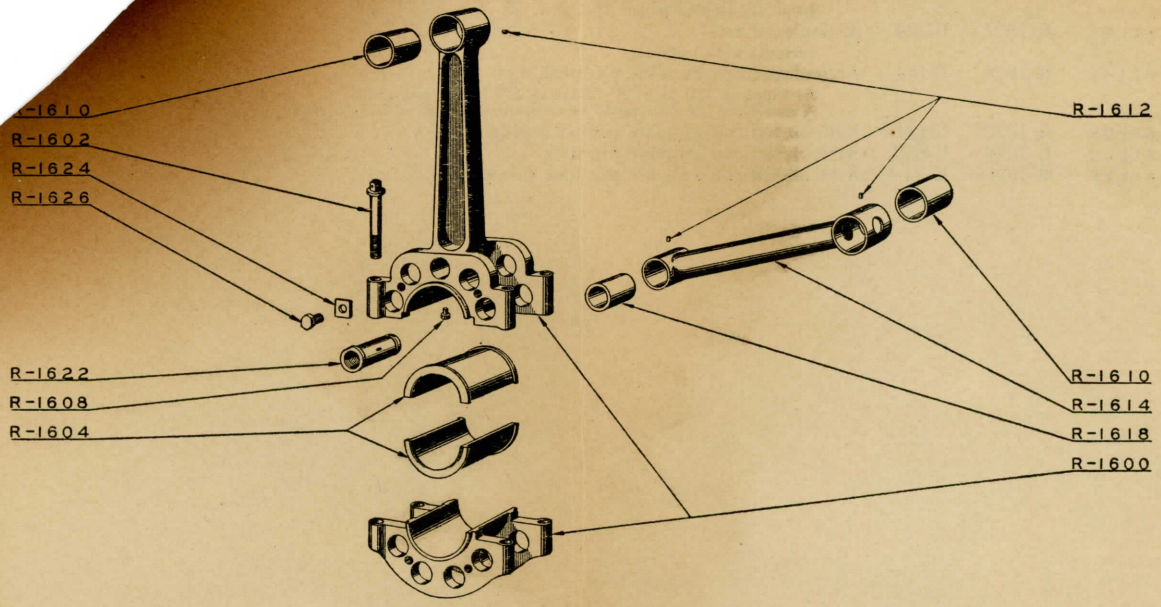
The early type crankshaft was factory installed in the following engines:

7070—7209	8597—8641	9205
7239	8753—9153	9211
7282—7676	9170	9226
7684—7996	9174	9259
8025—8052	9187	9368—9375
8073—8585		

Code Word	Reference Number	Drawing Number	Description of Part		
			CRANKSHAFT AND PROPELLER HUB—Cont'd		
			CRANKSHAFT—Cont'd		
ALHID		40251	Crankshaft with generator drive keyway. Assembled with ball bear Read note on page 501. Includes: 40247—Crankshaft. 18386—Ball bearings (2). 17264—Oil baffles (2). 17079—Ball bearing nut. 17008—Cam driving gear key. 11397—Lock ring. 20439—Generator drive gear key.		
ALHOY		40248	Crankshaft without generator drive keyway. Assembled with ball bearings Read note on page 501. Includes: 40224—Crankshaft. 18386—Ball bearings (2). 17264—Oil baffles (2). 17079—Ball bearing nut. 17008—Cam driving gear key. 11397—Lock ring. 20439—Generator drive gear key.		374.60
ALHUP		40298	Crankshaft with generator drive keyway Read note on page 501. Includes: All plugs. 14881—Propeller hub key. 14882—Propeller hub key screw. 17465—Oil nozzles (2). 40249—Master rod bearing.		347.00
ALHYT	R-1501	40224	Crankshaft without generator drive keyway Read note on page 501. Includes: All plugs. 14881—Propeller hub key. 14882—Propeller hub key screw. 17465—Oil nozzles (2). 40249—Master rod bearing.		344.00
ALIAB	R-1502	11233	Crankshaft front end oil plug	1	.40
ALIBY	R-1503	19302	Crankshaft front cheek oil plug When assembling engine, be very careful that this part is not interchanged with drive gear bolt nut 19301.	1	.90
ALICA	R-1505	14919	Crankshaft oil passage headless screw (5/16" x 24 x 3/8")	2	.15
ALIDU	R-1507	14888	Crankshaft oil passage plug (1" x 14 x 9/32")	1	1.10
ALIED	R-1508	17465	Crankshaft oil hole nozzle	2	.60
ALIFU	R-1509	20165	Crankshaft main ball bearing Early engines used a roller bearing. This ball bearing is interchangeable and is the only type supplied.	2	10.60
ALIGO	R-1511	17264	Crankshaft oil slinger	2	.70
ALIHA	R-1513	18799	Crankshaft bearing spacer	1	3.10
ALIIL	R-1515	17008	Cam driving gear key	1	.30
ALIJE	R-1517	19309	Crankshaft thrust bearing spacer	1	9.60
ALIKU	R-1519	19583	Crankshaft thrust bearing rear oil slinger Be sure that this part is not confused with 17009.	1	.60
ALILY	R-1521	6213	Crankshaft thrust ball bearing	1	9.80

			Description of Part	Number Used	Price Each
			CRANKSHAFT AND PROPELLER HUB—Cont'd		
			CRANKSHAFT—Cont'd		
		19565	Crankshaft thrust bearing washer	1	$1.10
		17009	Crankshaft thrust bearing front oil slinger. Be sure that this part is not confused with 19583.	1	.60
	-1527	17010	Crankshaft thrust bearing nut	1	5.60
	R-1529	17016	Crankshaft thrust bearing nut lock ring	1	.20
	R-1531	17079	Crankshaft bearing nut	1	5.10
GT	R-1533	11397	Crankshaft bearing nut lock ring	1	.20
ITH	R-1535	19289	Crankshaft accessory drive gear key	1	.35
ALIUX	R-1537	20439	Crankshaft generator drive gear key	1	.30
ALIYA	R-1539	14881	Propeller hub key	1	2.30
ALIWI		14882	Propeller hub key screw	1	.15
			PROPELLER HUB Standard for wooden propellers for all J-5 engines. Metal propeller hub parts are not supplied.		
ALJID		13381	Propeller hub complete	1	104.40
ALJOG	R-1551	13379	Propeller hub with dowel	1	60.00
	R-1555	13380	Propeller hub flange	1	15.90
ALJUP	R-1557	17281	Propeller hub bolt	8	2.20
ALJYK	R-1558	19227	Propeller hub bolt washer	8	.04
ALKAK	R-1559	19226	Propeller hub bolt nut	8	.70
ALKBY	R-1561	17014	Propeller hub nut, inner	1	9.20
ALKCA	R-1563	17015	Propeller hub nut, outer	1	7.30

		Description of Part	Number Used	Price Each
		CONNECTING RODS		
	267	Master rod complete	1	$290.00
		Includes: Piston pin bushing. Crankshaft bushing.		
	V-649	Master rod bolt	4	4.00



CONNECTING RODS

ALKVA	R-1604	40249	Master rod bearing	1	24.00

As supplied, I.D. is 2.010″; ream to give .0025″ clearance on crank pin. For reaming, use special factory reaming fixture.

Note that the upper half of the bearing has a shallow hole for the dowel pin that is in the rod. Be sure that bearings are installed properly and that halves of one bearing are not interchanged with halves of another bearing.

Steel shell of bearing was changed for late J-5 engines so as to allow sufficient babbitt for the enlarged crankshaft fillets. (Read note under Crankshaft on page 501.) An early type master rod bearing cannot be used with a late type crankshaft; there will be so little babbitt at the fillets that the steel shell is likely to bear directly against the fillets. A late type bearing can be used either for a late or for an early crankshaft. Only the late type bearing is supplied.

We strongly recommend that master rods be sent to factory to have new bearings installed. Labor charge for installing and reaming new bearings is $6.00.

When sending in master rod for new bearing, be sure to micrometer crankshaft and tag master rod with exact size of crank pin.

CONNECTING RODS—Cont'd

Code Word	Reference Number	Drawing Number	Description of Part		
ALKYB	R-1608	V-653	Master rod bearing dowel		
ALKZU	R-1610	18829	Connecting rod piston pin bushing As supplied, I.D. is 1.172″; ream to 1.825″ after assembly. A dowel pin (11163) should be ordered with each of these bushings.		
ALLAC	R-1612	11163	Connecting rod piston pin bushing and articulated rod knuckle pin bushing dowel pin	1	
ALLEK	R-1614	13364	Articulated rod Includes both bushings.	8	
ALLIP	R-1618	18144	Articulated rod knuckle pin bushings As supplied, I.D. is .867″; ream to .877″ after assembly. A dowel pin (11163) should be ordered with each of these bushings.	8	
ALLOK	R-1622	13191	Articulated rod knuckle pin with plug	8	4.90
ALLUD	R-1624	V-652	Articulated rod knuckle pin lock	4	.35
ALLYA	R-1626	K-31-C	Articulated rod knuckle pin lock screw	4	.40

			Description of Part	Number Used	Price Each

CYLINDERS, INTAKE PIPES AND PISTONS

CYLINDERS

Worn cylinders can be reground at factory to .015″ and .030″ oversize. Charge for regrinding is $6.00 per cylinder, f.o.b. factory. This price includes refacing the valve seats. Oversize pistons will be fitted to reground cylinders for the price of the piston, no labor charge being made.

Charges for other factory reconditioning work, including material and labor, on cylinders are as follows:

Replace intake valve guide	$ 6.20
Replace exhaust valve guide	10.30
Rocker box stud, short. Replace one	1.30
Rocker box stud, long. Replace one	1.35

LMFU		13813	Cylinder with valve and rocker box assembly, standard size	9	$198.00

Includes:
Valves and springs.
Rocker arms complete.
Rocker boxes complete.

The cylinder and valve assembly complete is stocked in standard size only. Oversizes will be furnished on special order as follows:

Code Word	*Drawing Number*	*Name*	*Price*
ALMGE	50027	Cylinder with valve and rocker box assembly, .015″ oversize	$198.00
ALMHA	50028	Cylinder with valve and rocker box assembly, .030″ oversize	198.00

ALMIP		13845	Cylinder with valves, standard size	9	144.00

Includes:
Valve and spring assemblies.
All studs.

The cylinder with valves is stocked in standard size only. Oversizes will be furnished on special order as follows:

Code Word	*Drawing Number*	*Name*	*Price*
ALMJA	50025	Cylinder with valves, .015″ oversize	$144.00
ALMKI	50026	Cylinder with valves, .030″ oversize	144.00

ALMLU	R-1700	13527	Cylinder only, standard size	9	104.00

Includes:
Valve guides.
All studs.

Code Word	*Drawing Number*	*Name*		*Price*
ALMMA	50023	Cylinder only, .015″ oversize	9	$104.00
ALMNO	50024	Cylinder only, .030″ oversize	9	104.00

ALMOK	R-1702	19367	Cylinder exhaust flange stud (⅜″ x 16–24 x 1¾″)	18	.25
ALMPA		19364	Cylinder rocker box stud, short (5/16″ x 18–24 x 1 31/32″)	36	.30

Used for the following engines:

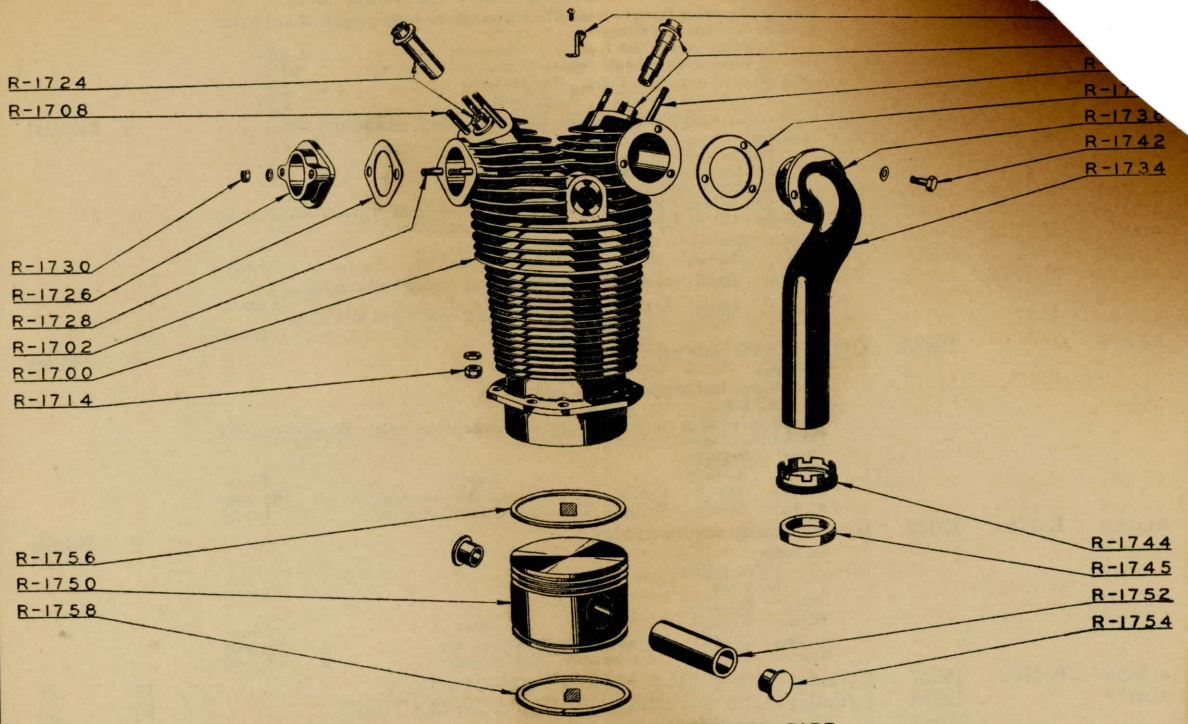
7070—7476	8073
7532—7586	8154—8219
7612—7817	

If it becomes necessary to replace this stud, we recommend that the cylinder head be drilled and retapped to take the larger stud, 21409 listed below: This operation should be done by a competent mechanic.
(Before making this change read Service Instruction Sheet No. 38.)

ALMRI	R-1708	21409	Cylinder rocker box stud, short (5/16″–24 x ⅜″–16 x 2″)	36	.30

Used as replacement for stud 19364 as described above.
Factory installed on the following engines:

7477—7531	8220—8752	10091—10129
7587—7611	8929—9367	10911—10996
7818—8072	9376—9522	11659—11674
8074—8153	9630—10069	13593—13642



CYLINDER, PISTON AND INTAKE PIPE

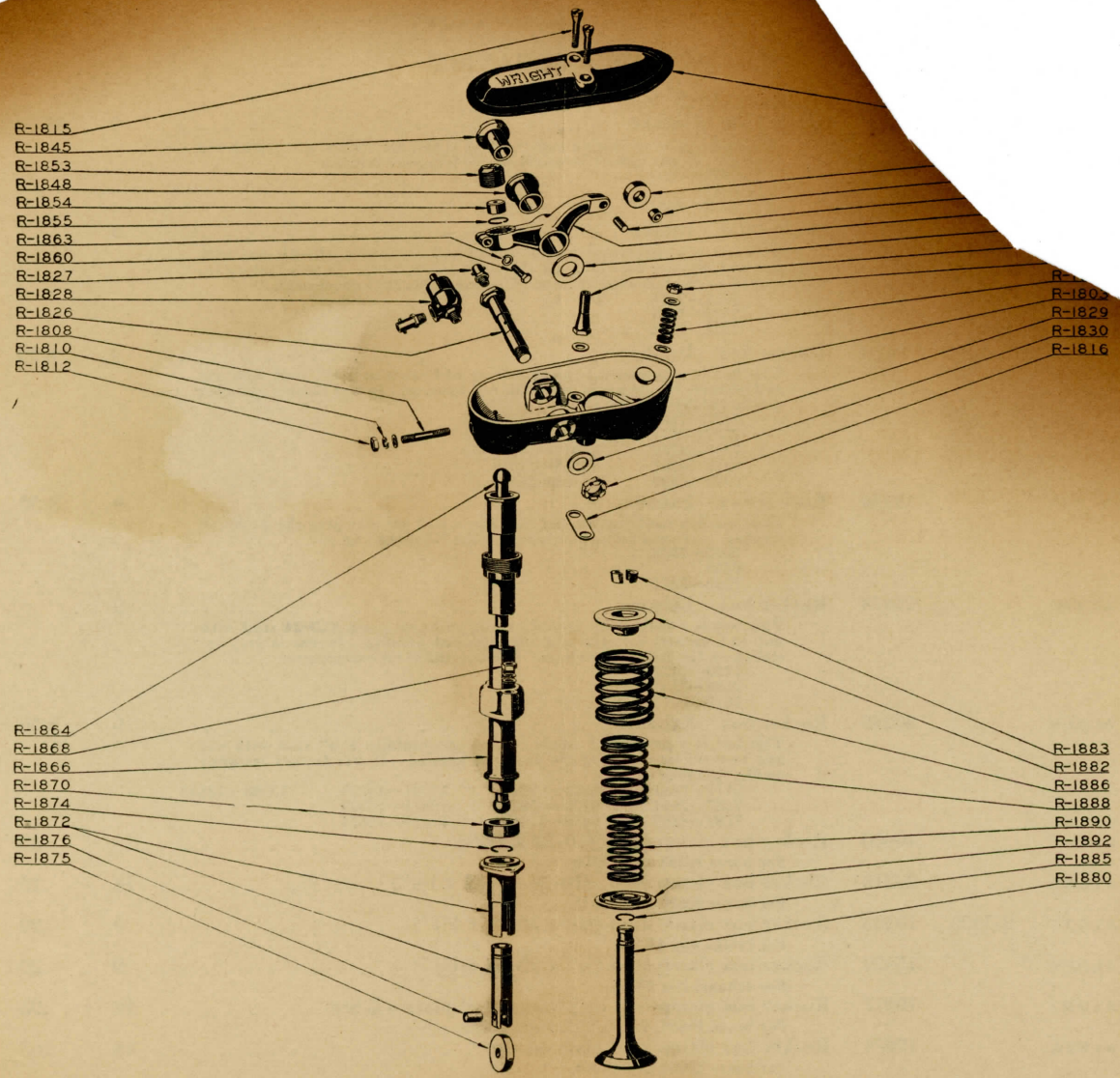
			Description of Part	Number Used	Price Each
			LINDERS, INTAKE PIPES AND PISTONS—Cont'd		
			CYLINDERS—Cont'd		
		9365	Cylinder rocker box stud, long (5/16" x 18–24 x 2½")	18	$ .30
			Used for the following engines: 7070—7476 7612—7817 8154—8219 7532—7586 8073 If it becomes necessary to replace this stud, we recommend that the cylinder head be drilled and retapped to take the larger stud 21417 listed below: This operation should be done by a competent mechanic. (Before making this change read Service Instruction Sheet No. 38.)		
	R-1712	21417	Cylinder rocker box stud, long (5/16"–24 x 3/8"–16 x 2½")	18	.35
			Used as replacement for stud 19365 as described above. Factory installed on the following engines: 7477—7531 8074—8153 9376— 9522 10911—10996 7587—7611 8220—8752 9630—10069 11659—11674 7818—8072 8929—9367 10091—10129 13593—13642		
ALMUT	R-1714	18856	Cylinder hold-down nut (3/8" x 24)	72	.20
ALMVO		18807	Cylinder hold-down nut lock	72	.02
ALMWY	R-1722	19362	Valve guide, intake, standard size	9	2.75
ALMYU		50006	Valve guide, intake, .010" oversize on outside diameter	9	2.75
ALMZA	R-1724	19363	Valve guide, exhaust, standard size	9	5.25
ALNAK		50004	Valve guide, exhaust, .010" oversize on outside diameter	9	5.25
ALNEP	R-1726	19361	Exhaust pipe flange	9	1.50
ALNIX	R-1728	19353	Exhaust pipe flange gasket	9	.05Q
ALNOB		14939	Exhaust pipe flange lockwasher	18	.02
ALNUM	R-1730	14575	Exhaust pipe flange nut (3/8" x 24)	18	.20
ALNYK		19371	Exhaust pipe flange cover plate	9	.10
			Used only for shipment of engines.		
			INTAKE PIPES		
ALOFA	R-1734	19976	Intake pipe	9	3.60
ALOGY	R-1736	19398	Intake pipe flange	9	1.45
ALOHE	R-1740	19418	Intake pipe flange gasket	9	.04Q
ALOIK	R-1742	18197	Intake pipe flange screw (1/4" x 28 x 1 1/16")	18	.25
ALOJA		14941	Intake pipe flange screw lockwasher	18	.02
ALOKY	R-1744	18827	Intake pipe packing nut	9	1.95
ALOLA	R-1745	18115	Intake pipe rubber packing	9	.15Q
			PISTONS		
			Pistons are not sold without fitted rings. The standard compression ratio of "Whirlwind" engine pistons is 5.2:1. Some engines have been built on special order for special purposes with high compression pistons with a 5.44:1 ratio. *The Wright guarantee does not apply to engines equipped with high compression pistons.* The overall height of the high compression piston is approximately 1/16" greater than the height of the standard pistons. High compression pistons require an extra high grade fuel or their use must be restricted to high altitudes. They are not recommended for average conditions. Moderate stocks of high compression pistons are carried to supply engines so equipped. Owners of engines with standard pistons are advised not to change to the high compression type until after consulting our Engineering Department. The following engines have had high compression pistons installed; some of these engines were subsequently fitted with standard compression pistons: 7070—7209 7665—7676 8454 7284—7295 8158 8504—8506 7328—7334 8170 8536 7352—7361 8361 8965 7631—7642 8445—8447		

CYLINDERS, INTAKE PIPES AND PISTONS—Co

PISTONS—Cont'd

Code Word	Reference Number	Drawing Number	Description of Part		
			Standard compression pistons:		
ALOSI	R-1750	13913	Piston complete with rings, piston pin and plugs, standard size. (Standard compression)	9	
ALOTO		50008	Piston complete with rings, piston pin and plugs, .015″ oversize. (Standard compression)		
ALOUY		50009	Piston complete with rings, piston pin and plugs, .030″ oversize. (Standard compression)	9	
ALOVO		13888	Piston with rings, standard size. (Standard compression)	9	15.
ALOWK		50012	Piston with rings, .015″ oversize. (Standard compression)	9	15.50
ALOXY		50013	Piston with rings, .030″ oversize. (Standard compression)	9	15.50
			High compression pistons:		
ALPDA		13812	Piston complete with rings, piston pin and plugs, standard size. (High compression)	9	20.00
ALPEK		50010	Piston complete with rings, piston pin and plugs, .015″ oversize. (High compression)	9	20.00
ALPFU		50011	Piston complete with rings, piston pin and plugs, .030″ oversize. (High compression)	9	20.00
ALPGO		13703	Piston with rings, standard size. (High compression)	9	15.50
ALPHA		50014	Piston with rings, .015″ oversize. (High compression)	9	15.50
ALPIS		50015	Piston with rings, .030″ oversize. (High compression)	9	15.50
ALPIT		13526	Piston pin with plugs	9	4.50
ALPJA	R-1752	19283	Piston pin	9	3.90
ALPKI	R-1754	19284	Piston pin plugs	18	.30
			Piston rings:		
			Piston rings are marked with paint to indicate size.		
ALPRA	R-1756	V-904-B	Piston ring, plain, standard size No paint marking.	27	.40
ALPSI		50016	Piston ring, plain, .015″ oversize diameter, standard width Marked with red paint.	27	.40
ALPTO		50017	Piston ring, plain, .030″ oversize diameter, standard width Marked with yellow paint.	27	.40
ALPTY		50131	Piston ring, plain, standard diameter, .010″ oversize width Marked with green paint.	27	.40
ALPUD		50132	Piston ring, plain, .015″ oversize diameter, .010″ oversize width Marked with green and red paints.	27	.40
ALPUF		50133	Piston ring, plain, .030″ oversize diameter, .010″ oversize width Marked with green and yellow paints.	27	.40
ALPUK		50018	Piston ring, plain, standard diameter, .020″ oversize width Marked with blue paint.	27	.40
ALPVO		50019	Piston ring, plain, .015″ oversize diameter, .020″ oversize width Marked with blue and red paints.	27	.40
ALPYA		50020	Piston ring, plain, .030″ oversize diameter, .020″ oversize width Marked with blue and yellow paints.	27	.40
ALPZA	R-1758	V-905	Piston ring, wiper, standard No paint marking.	9	.50
ALRAK		50021	Piston ring, wiper, .015″ oversize diameter, standard width Marked with red paint.	9	.50
ALREG		50022	Piston ring, wiper, .030″ oversize diameter, standard width Marked with yellow paint.	9	.50

			Description of Part	Number Used	Price Each
			VALVE MECHANISM		
			ROCKER BOX		
		19368	Rocker box. Intake	9	$8.50
			This box is a sand casting and contains a bolt for clamping the push rod housing. It was factory installed on the following engines: 7070—7209 7239 7282—7351		
		20877	Rocker box. Intake	9	
			This box is a permanent mould casting and contains a #10–24 stud with nut and washers for clamping the push rod housing. It was factory installed on the following engines. Use box 40284 for replacement. 7352—7476 7532—7581 7615—7774		
ALSIS	R-1803	40284	Rocker box. Intake	9	8.50
			This box is a permanent mould casting and contains a ¼″ stud with nut and washers for clamping the push rod housing. It was factory installed on the following engines: 7477—7531 9630—11069 7587—7611 11091—10129 7789—8752 10911—10996 8929—9367 11659—11674 9376—9522 13593—13642		
ALSJA		19369	Rocker box. Exhaust	9	8.50
			This box is a sand casting and contains a bolt for clamping the push rod housing. It was factory installed on the following engines: 7070—7209 7239 7282—7351		
ALSKI		20878	Rocker box. Exhaust	9	
			This box is a permanent mould casting and contains a #10–24 stud with nut and washers for clamping the push rod housing. It was factory installed on the following engines. Use box 40285 for replacement. 7352—7476 7532—7581 7615—7774		
ALSLU		40285	Rocker box. Exhaust	9	8.50
			This box is a permanent mould casting and contains a ¼″ stud with nut and washers for clamping the push rod housing. It was factory installed on the following engines: 7477—7531 8929— 9367 11091—10129 13593—13642 7587—7611 9376— 9522 10911—10996 7789—8752 9630—11069 11659—11674		
ALSMA		19600	Rocker box clamp bolt (#10–32 x 1⅞″)	18	.30
			For boxes 19368 and 19369.		
ALSNO		20218	Rocker box clamp stud (#10–24–10–32 x 1⅜″)	18	.15
			For boxes 20320 and 20321.		
ALSOD	R-1808	19366	Rocker box clamp stud (¼″ x 20–28 x 1⅞″)	9	.20
			For intake box 13963.		
ALSPY		15829	Rocker box clamp stud (¼″ x 20–28 x 1⅝″)	9	.20
			For exhaust box 13964.		
ALSRI		19617	Rocker box clamp bolt and clamp stud plain washer	18	.03
			For boxes 19368, 19369, 20320 and 20321.		
ALSSA		19679	Rocker box clamp stud plain washer	18	.03
			For boxes 13963 and 13964.		
ALSTO	R-1810	17234	Rocker box clamp bolt and clamp stud lockwasher	18	.02
			For boxes 19368, 19369, 20320 and 20321.		



VALVE MECHANISM

VALVE MECHANISM

Model J-5.
Sheet revised
November 1, 1928

			Description of Part	Number Used	Price Each
			VALVE MECHANISM—Cont'd		
			ROCKER BOX—Cont'd		
		941	Rocker box clamp stud lockwasher . . . . . For boxes 13963 and 13964.	18	$ .02
		14988	Rocker box clamp bolt and clamp stud nut (#10–32) . . . . . For boxes 19368, 19369, 20320 and 20321.	18	.15
		12 14931	Rocker box clamp stud nut (¼″ x 28) . . . . . For boxes 13963 and 13964.	18	.15
		R-1814 20375	Rocker box cover	18	.65
		R-1815 19406	Rocker box cover screw	36	.30
	LTAT	R-1816 20313	Rocker box to cylinder spacer	18	.03
	ALTBI	R-1817 20851	Rocker box long conical nut	36	.50
	ALTCA	R-1818 19413	Rocker box washer for tension spring and for long conical nut	54	.04
	ALTDO	R-1819 19402	Rocker box tension spring	18	.15
	ALTEB	R-1820 21376	Rocker box tension spring slotted nut (5/16″ x 24 x 17/64″)	18	.25
			ROCKER ARM SUPPORT PIN		
	ALTKO	R-1826 19376	Rocker arm support pin	18	1.35
	ALTLI	R-1827 17622	Rocker arm support pin Alemite connection . . . . . Used either direct in support pin or in a Uniflow oiler.	18	.13*
	ALTMU	R-1828 20643	Uniflow oiler, less Alemite fitting. Supplied only as special equipment	18	2.15*
	ALTNI	R-1829 19412	Rocker arm support pin washer	18	.07
	ALTOB	R-1830 19415	Rocker arm support pin nut	18	.40
			ROCKER ARM		
	ALTWU	R-1841 13511	Rocker arm, intake . . . . . Includes: Bushing. Roller. Roller pin. Clamp stud and nut.	9	10.25
	ALTYB	13512	Rocker arm, exhaust . . . . . Includes: Bushing. Roller. Roller pin. Clamp stud and nut.	9	10.25
	ALTZU	R-1844 19416	Rocker arm spacer . . . . . Early engines used a spacer at each side of the rocker arm. On later engines the rocker arm support pin sleeve was designed with a flange which takes the place of one spacer. The engines using only one spacer are as follows: 7477—7531, 8929— 9367, 11091—10129, 13593—13642; 7587—7611, 9376— 9522, 10911—10996; 7789—8752, 9630—11069, 11659—11674	18	.20
	ALUAD	19375	Rocker arm support pin sleeve (without flange) . . . . . Used on the following engines: 7070—7476, 7532—7581, 7615—7774	18	1.50
	ALUBU	R-1845 20879	Rocker arm support pin sleeve (with flange) . . . . . Used on the following engines: 7477—7531, 7587—7611, 7789—8752, 8929—9367, 9376—9522, 9630—11069, 11091—10129, 10911—10996, 11659—11674, 13593—13642	18	2.15

Code Word	Reference Number	Drawing Number	Description of Part		
			VALVE MECHANISM—Cont'd		
			ROCKER ARM—Cont'd		
ALUCO		19374	Rocker arm support pin bushing (two-piece type). Not supplied. Use one-piece bushing 20297.		
ALUDA	R-1848	20297	Rocker arm support pin bushing (one-piece type) . . . . . Used as a replacement for 19374. Factory installed on the following engines: 7477—7611, 7627—7676, 7684—7771, 7789—8752, 8929—9367, 9376—9522, 9630—10069, 10091—10129, 10911—10996, 11659—11674, 13593—13642. As supplied, I.D. is .717"; ream to .719" on assembly.		
ALUEP	R-1850	23065	Rocker arm roller, less hub	18	1.00
ALUFI	R-1851	23066	Rocker arm roller hub	18	.40
ALUGA	R-1852	22329	Rocker arm roller pin	18	.07
ALUHU	R-1853	19395	Rocker arm adjusting screw, less socket	18	.75
ALUIK	R-1854	19396	Rocker arm adjusting screw socket	18	.65
ALUJA	R-1855	20359	Rocker arm adjusting screw circlet	18	.02
ALUKT		19411	Rocker arm adjusting screw clamp screw (#10–32 x 1 1/16") . . . . . Used on the following engines: 7070—7476, 7532—7581, 7615—7774. Since some of the above engines have had the late type rocker arm (with 1/4" clamp screw) installed as a replacement, be sure to examine the rocker arms on this group of engines before ordering clamp screws.	18	.25
ALUMA	R-1860	20662	Rocker arm adjusting screw clamp screw (1/4" x 28 x 15/16") . . . . . Used on the following engines: 7477—7531, 7587—7611, 7789—8752, 8929—9367, 9376—9522, 9630—10069, 10091—10129, 10911—10996, 11659—11674, 13593—13642	18	.25
ALUNO	R-1863	17234	Rocker arm adjusting screw clamp screw lockwasher (7/32") . . . . . Used with screw 19411.	18	.02
ALUOP		14941	Rocker arm adjusting screw clamp screw lockwasher (1/4") . . . . . Used with screw 20662.	18	.02
			PUSH ROD AND HOUSING		
ALUVU	R-1864	13624	Push rod complete with ball ends . . . . . Since experience has shown that new ball ends cannot be safely installed in old push rod tubes, ball ends are not supplied separately.	18	1.95
ALUWA		13514	Push rod housing assembly . . . . . Includes: Clamp nut. Housing lower clamp. On this assembly, the tube projects 1/2" beyond the upper ferrule. The assembly cannot be used on late type engines. It is used in connection with rocker boxes 19368 and 19369, and was factory installed on the following engines: 7070—7209, 7239, 7284—7351. Since this assembly cannot be dismantled on account of the welded ferrules, separate parts are not supplied.	18	7.40

			Description of Part	Number Used	Price Each
			VALVE MECHANISM—Cont'd		
			PUSH ROD AND HOUSING—Cont'd		
		3800	Push rod housing assembly	18	$7.40
			Includes: Clamp nut. Housing lower clamp. On this assembly, the upper end of the tube is flush with the ferrule. The assembly cannot be used with early type engines. It is used in connection with rocker boxes 20877, 20878, 40284 and 40285, and was factory installed beginning with engine 7352. Since this assembly cannot be dismantled on account of the welded ferrules, separate parts are not supplied.		
ALUXY	R-1868	14931	Push rod housing lower clamp nut (¼" x 28)	36	.15
ALUYI		19679	Push rod housing lower clamp plain washer	36	.03
ALUZO		14941	Push rod housing lower clamp lockwasher	36	.02
ALVAV	R-1870	20342	Push rod housing packing	18	.05Q
			VALVE TAPPETS		
			All valve tappets include sockets. Sockets are not supplied separately.		
ALWAP		13510	Valve tappet, less roller and pin.		
			This tappet is not supplied. For replacement use the matched assembly 13837 listed below. The difference between this tappet and the later tappet which is included in assembly 13837 is that this tappet has .002" less clearance in the roller slot and is drilled for a ¼" roller pin. For engines 7070 to 7209 the roller pin was riveted in the valve tappet. When replacing the riveted type pin, use the floating type pin 20571 listed below. This tappet was factory installed in the following engines: 7070—7209 7303—7351 7239		
ALWET	R-1872	13837	Valve tappet and guide matched assembly	18	9.60
			The valve tappet in this assembly is drilled for a ⅜" roller pin. The assembly is used as replacement for the early type tappet listed above. It was factory installed in the following engines: 7282—7294 9630—10069 7352—7676 10091—10129 7684—8752 10911—10996 8929—9367 11659—11674 9376—9522 13593—13642		
ALWIG	R-1874	19385	Valve tappet circlet	18	.02
ALWOT		19386	Valve tappet roller	18	1.50
			This roller has a hub and requires a ¼" pin. It is .002" less in width than roller 20452. It was factory installed in the following engines: 7070—7209 7303—7351 7239		
ALWUK		23066	Valve tappet roller hub	18	.40
			Supersedes hub 19409. Used for the following engines: 7070—7209 7303—7351 7239		
ALWYB	R-1875	20452	Valve tappet roller	18	1.10
			This roller has no hub. It requires a ⅜" pin and is .002" wider than roller 19386. It was factory installed in the following engines: 7282—7294 7684—8752 7352—7676		

Code Word	Reference Number	Drawing Number	Description of Part		
			VALVE MECHANISM—Cont'd		
			VALVE TAPPETS—Cont'd		
ALXAZ		19410	Valve tappet roller pin, ¼″ diameter, riveted type. This pin was used for engines from 7070 to 7209. It is not serviced. F replacement use pin 20571 listed below.		
ALXEP		20571	Valve tappet roller pin, ¼″ diameter, floating type . . . . . Used as replacement for riveted type pin described above. It was factory installed in the following engines: 7239 7303—7351		
ALXID	R-1876	20453	Valve tappet roller pin, ⅜″ diameter, floating type . . . . . Factory installed in the following engines: 7282—7294 9630—10069 7352—7676 10091—10129 7684—8752 10911—10996 8929—9367 11659—11674 9376—9522 13593—13642	18	.2
			VALVES AND SPRINGS		
ALYBU	R-1880	19378	Valve, intake	9	5.25
ALYCE		21427	Valve, exhaust	9	24.00
ALYDA	R-1882	19910	Valve spring washer, upper	18	.90
ALYEK	R-1883	19911	Valve spring washer lock, intake	18	.30
ALYFO		19912	Valve spring washer lock, exhaust	18	.30
ALYGU	R-1885	19381	Valve circlet, intake	9	.02
ALYHA		19382	Valve circlet, exhaust	9	.02
ALYIP	R-1886	21424	Valve spring, outer	18	.70
ALYJA	R-1888	21423	Valve spring, intermediate	18	.65
ALYKI	R-1890	21422	Valve spring, inner	18	.60
ALYLE	R-1892	19405	Valve spring washer, lower	18	.60

			Description of Part	Number Used	Price Each

ETO, SPARK PLUGS AND IGNITION WIRING

For detail parts of magnetos, see Parts List in the SC41 Instruction Book issued by Scintilla Magneto Co., Sidney, N. Y., and order direct from Scintilla.

MAGNETO

20450 Magneto. (Scintilla VAG-9D) 2 $156.00*

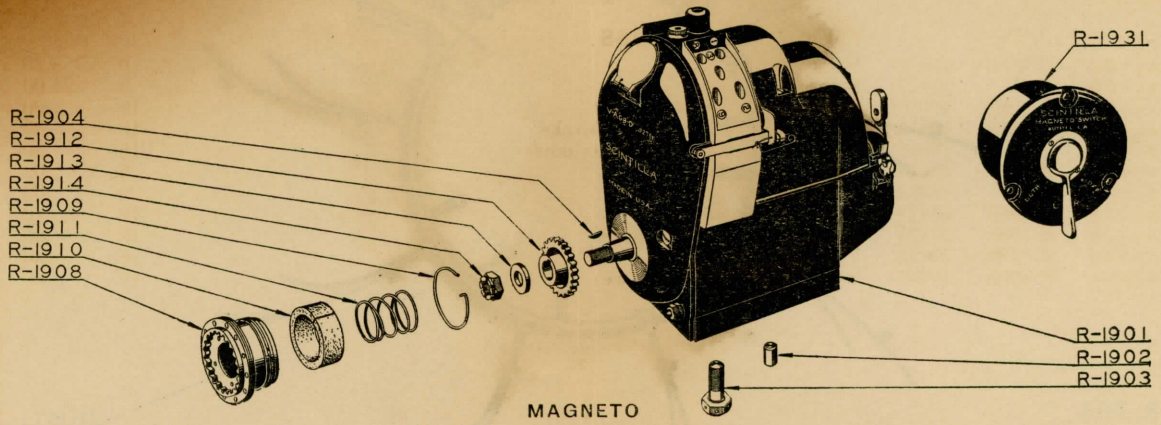
Early type J-5 engines were equipped with a Swiss made Scintilla magneto, type AG-9D. This Swiss magneto is interchangeable as a unit with the later American made magneto but some of its detail parts are not interchangeable.

When ordering parts for a magneto, be sure to note the type as given on the front end plate of the magneto and enter it on your order.

The breaker points for the two types of magnetos are interchangeable.

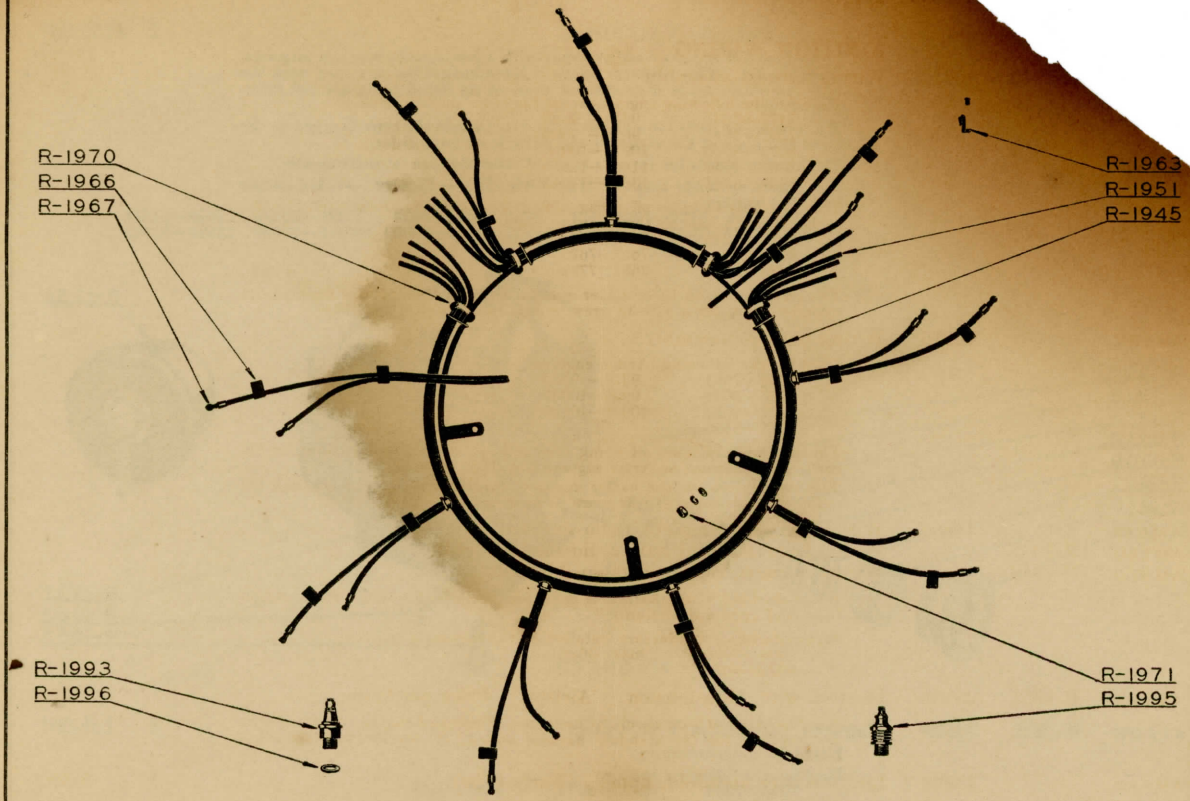
The American made magneto type VAG-9D was factory installed on the following engines:

7352—7531 7722—7964 8071—8752 9630—9633 10091—10129 11659—11674
7587—7627 7967—8024 8929—9522 9635—10069 10911—10996 13593—13642



MAGNETO

ALZOP	R-1901	20159	Magneto. (Scintilla VAG-9DS)	2	161.00*
			Fitted for radio-shielding.		
			Used for the following engines: 7965—7966 8025—8070 9634—9636		
ALZUY	R-1902	17089	Magneto mounting plate dowel ($\frac{5}{16}$" x $\frac{1}{2}$")	4	.10
ALZYK	R-1903	1440	Magneto mounting plate cap screw	8	.35
AMAAM	R-1904	11680	Magneto shaft Woodruff key	2	.02
AMABI	R-1908	13386	Magneto coupling assembly	2	5.70
AMACA	R-1909	619	Magneto coupling lock ring	2	.15
AMADO	R-1910	18727	Magneto coupling felt packing	2	.10
AMAEK	R-1911	699	Magneto coupling spring (1" x $1\frac{3}{16}$")	2	.15
AMAFE	R-1912	19188	Magneto gear	2	5.25
AMAGO	R-1913	18954	Magneto gear washer	2	.05*
AMAHA	R-1914	16795	Magneto gear nut	2	.15*



STANDARD IGNITION WIRING HARNESS

			Description of Part	Number Used	Price Each
			RK PLUGS AND IGNITION WIRING—Cont'd		
			MAGNETO SWITCH		
		1768	Magneto switch	1	$ 8.00*
			IGNITION WIRING		
	-1945	40212	Wiring harness assembly	1	45.00
			Used for the following engines except for radio-shielded engines: 7477—7531 9630— 9633 7587—7611 9635— 9995 8073—8570 10911—10996 8597—8752 11659—11674 8929—9367 13593—13642		
			This assembly includes all wiring clips and is used as a replacement for the earlier type harness on the following engines: 7070—7209 7532—7581 7239 7627—7676 7284—7476 7684 7774		
			The installation on these earlier engines requires drilling and tapping the cylinder heads for a #10-32 screw to hold ignition clip No. 20846.		
AMERK		40216	Wiring harness assembly	1	45.00
			Used for the following (Army) engines: 7789—7964 9376— 9522 7967—8024 9996—10069 8071—8072 10091—10129 8571—8596		
			This assembly includes all wiring clips and is used as a replacement for the earlier type harness on Army engines Nos. 7615 to 7626. The installation on the earlier engines requires drilling and tapping the cylinder heads for a #10-32 screw to hold ignition clip No. 20846.		
AMESA		13868	Wiring harness complete, radio-shielded	1	
AMESU	R-1947		Wiring harness, front half, radio-shielded	1	
AMETO	R-1948		Wiring harness, rear half, radio-shielded	1	
			Radio-shielded wiring harness is made on special order only. Price will be furnished upon application.		
			Radio-shielding was factory installed on the following engines: 7965—7966 9634—9636 8025—8070		
AMEZE	R-1951	20164	Ignition wire, high tension. "Airtite." Price per foot		.12¢
			No other kind of wire should be used on a Whirlwind engine. 54 ft. of wire are required for the standard harness and 62 ft. for the radio-shielded harness.		
AMFAP		13593	Ignition wire manifold, upper. (Early type)	1	5.40
			Used for the following engines: 7070—7209 7532—7581 7239 7615—7676 7284—7476 7684—7774		
AMFEK		13934	Ignition wire manifold, upper. (Late type)	1	5.40
			Used for the following engines: 7477—7531 9376— 9522 7587—7611 9630—10069 7789—7964 10091—10129 7967—8024 10911—10996 8071—8752 11659—11674 8929—9367 13593—13642		

Code Word	Reference Number	Drawing Number	Description

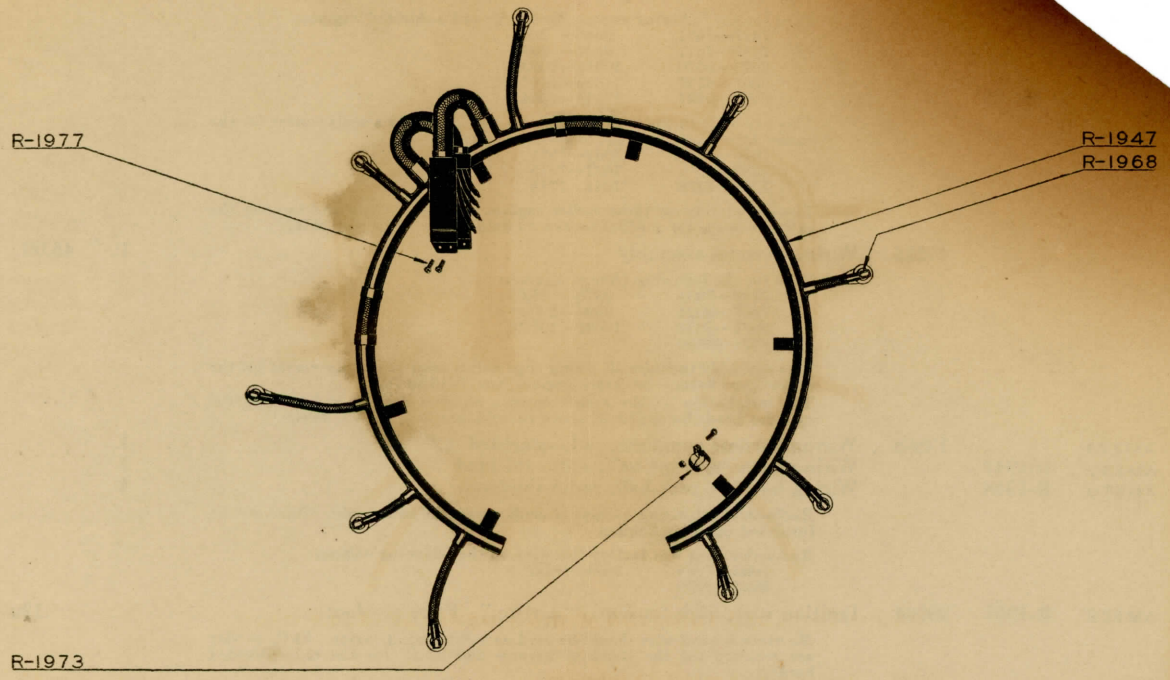
MAGNETO, SPARK PLUGS AND IGNITION

IGNITION WIRING—Cont'd

AMFIG 13594 Ignition wire manifold, lower. (Early type) . . . . . .

Used for the following engines:

7070—7209	7532—7581
7239	7615—7676
7284—7476	7684—7774



RADIO-SHIELDED IGNITION WIRING HARNESS—FRONT HALF

AMFOJ	13933	Ignition wire manifold, lower. (Late type)	1	8.80

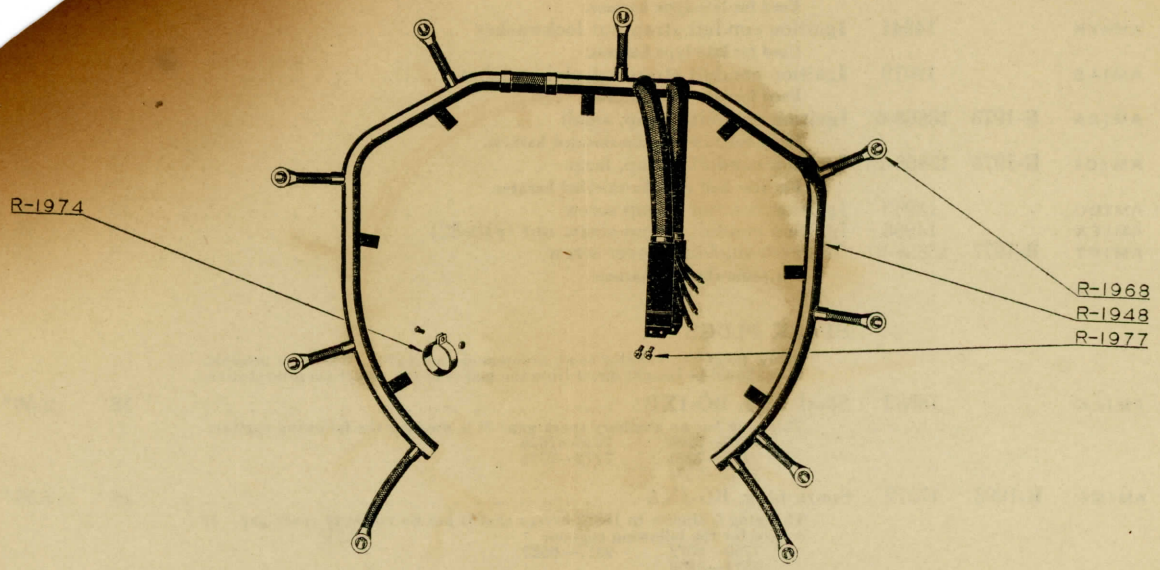
Used for the following engines:

7477—7531	9376— 9522
7587—7611	9630—10069
7789—7964	10091—10129
7967—8024	10911—10996
8071—8752	11659—11674
8929—9367	13593—13642

AMFUK	19677	Ignition wire manifold tube, short	9	.45

Used with early type manifold. See engine numbers above.

		Description of Part	Number Used	Price Each
		, SPARK PLUGS AND IGNITION WIRING—Cont'd		
		IGNITION WIRING—Cont'd		
	364	Ignition wire manifold tube, long	9	$1.10
		Used with early type manifold. See engine numbers on page 904.		
	19863	Ignition wire manifold tube clip	9	.15
		For fastening to cylinder hold-down stud.		
		Used with early type manifold. See engine numbers on page 904.		

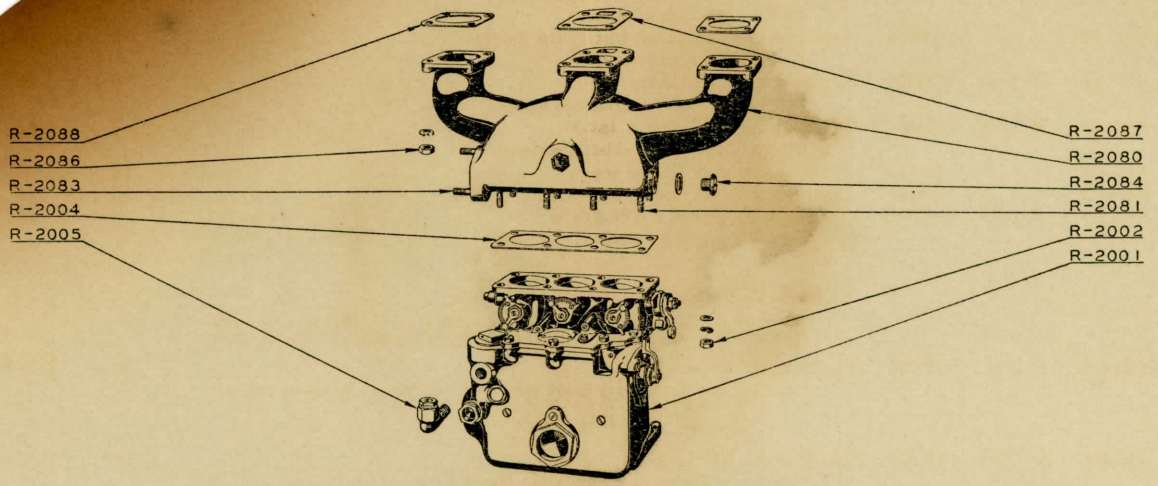


RADIO-SHIELDED IGNITION WIRING HARNESS—REAR HALF

AMGET		19637	Ignition wire manifold tube clip	9	.45
			For fastening on intake pipe.		
			Used with early type manifold. See engine numbers on page 904.		
AMGIP		18943	Ignition wire manifold tube clip screw	18	.05
AMGOD		17230	Ignition wire manifold tube clip screw nut	18	.02
AMGUK	R-1963	20846	Ignition wire single clip	9	.05
			For cylinder head.		
			Used for the late type harness.		
AMGYF		20848	Ignition wire single clip screw (#10–32 x 5/16")	9	.05
AMHAZ	R-1966	20845	Ignition wire clip	18	.05
			Used for late type harness.		

Code Word	Reference Number	Drawing Number	Description of Part		
			MAGNETO, SPARK PLUGS AND IGNITION WIRI		
			IGNITION WIRING—Cont'd		
AMHEP	R-1967	11340	Ignition wire spark plug terminal, standard. (Rajah type) . .		
AMHIZ	R-1968	40305	Ignition wire spark plug terminal with special lockwire. (Impr. Connecticut type) . . . . . Army standard and Navy type for use with radio-shielded ignition.		
AMHOS	R-1970	18015	Ignition wire rubber ring		
AMHUG	R-1971	14931	Ignition conduit strap nut (¼" x 28) . . . . . Used for late type harness.	5	
AHHYK		14941	Ignition conduit strap nut lockwasher . . . . . Used for late type harness.	5	.0
AMIAB		19679	Ignition conduit strap nut plain washer . . . . . Used for late type harness.	5	.03
AMIBA	R-1973	13868-6	Ignition conduit clamp, small . . . . . For front half of radio-shielded harness.	6	.20
AMICI	R-1974	13868-13	Ignition conduit clamp, large . . . . . For rear half of radio-shielded harness.	7	.25
AMIDO		18943	Ignition conduit clamp screw	13	.05
AMIEX		14988	Ignition conduit clamp screw nut (#10-32)	13	.15
AMIFT	R-1977	13868-9	Magneto shielding cover screw . . . . . For radio-shielded harness.	8	.15
			SPARK PLUGS Spark plugs are handled as an accommodation only. Whenever possible, they should be bought direct from the maker or the maker's representative.		
AMILK		18832	Spark plug, BG-IXB . . . . . This plug has an auxiliary spark gap. It is used for the following engines: 7070—7209 7615—7626 7282—7294 7772—7774 7352—7374	18	2.50*
AMIMP	R-1993	17272	Spark plug, BG-IXA . . . . . This plug is similar to 18832 except that it has no auxiliary spark gap. It is used for the following engines: 7789—8072 9377—9522 8571—8596	18	2.50*
AMINK		20937	Spark plug, BG-Hornet No. 4 . . . . . This plug has a much smaller body than the other BG plugs but is threaded the same. It is used for the following engines: 7375—7531 8074—8153 9937— 9995 11653—11674 7587—7611 8597—8752 10911—10996	18	2.75*
AMION		22333	Spark plug, BG-Hornet No. 4B . . . . . This plug is similar to 20937 except that it has a circular spark gap. It is used for the following engines: 9996—10069 10091—10129	18	3.00*
AMIPI	R-1995	11985	Spark plug, AC—Type N . . . . . Used for the following engines: 7239 7627—7676 8154—8570 13593—13642 7303—7351 7684—7771 8929—9367 7532—7581 8073 9630—9936	18	1.25Q
AMIRS	R-1996	B-28	Spark plug gasket . . . . . Used for all types of plugs.	18	.02Q

		Description of Part	Number Used	Price Each
		CARBURETOR AND INTAKE MANIFOLD		
		For detail parts of carburetor, see Parts List issued by Stromberg Motor Devices Company, Chicago, Illinois, and order direct from Stromberg.		
		CARBURETOR		
	19317	Carburetor. (Stromberg NA-T4-B)	1	$310.00*
	14931	Carburetor to intake manifold nut (¼″ x 28)	8	.15
	14994	Carburetor to intake manifold nut plain washer	8	.05



CARBURETOR AND INTAKE MANIFOLD

AMIZA		14941	Carburetor to intake manifold nut lockwasher	8	.02
AMJAJ	R-2004	19572	Carburetor flange gasket	1	.12
AMJEF	R-2005	16820	Carburetor gasoline elbow connection, complete. (For ⅜″ tubing)	1	.55
AMJIX		22046	Carburetor gasoline elbow connection, body half	1	.35
AMJOP		22047	Carburetor gasoline connection nut	1	.20
			INTAKE MANIFOLD WITH OIL SUMP		
AMOZO	R-2080	13488	Intake manifold	1	82.00
			Includes: Oil thermometer well plug. Core plug. All studs.		
AMPAP	R-2081	14959	Intake manifold to carburetor stud (¼″ x 20–28 x 1 3/16″)	8	.15

Code Word	Reference Number	Drawing Number	Description of Part	
			CARBURETOR AND INTAKE MANIFOLD—C	
			INTAKE MANIFOLD WITH OIL SUMP—Cont'd	
AMPBU	R-2083	18114	Intake manifold to oil suction pipe flange and to crankcase dr flange stud (5/16" x 18–24 x 1 3/16")	
AMPCE	R-2084	11819	Oil thermometer well plug	
AMPDA		11559	Oil thermometer well plug gasket	
AMPEX	R-2086	14574	Intake manifold to crankcase nut (5/16" x 24)	12
AMPFU		14940	Intake manifold to crankcase nut lockwasher	1
AMPGO	R-2087	17348	Intake manifold center gasket	2
AMPHI	R-2088	16889	Intake manifold end gasket	

			Description of Part	Number Used	Price Each

...ARBURETOR AIR HEATER AND CLEANER

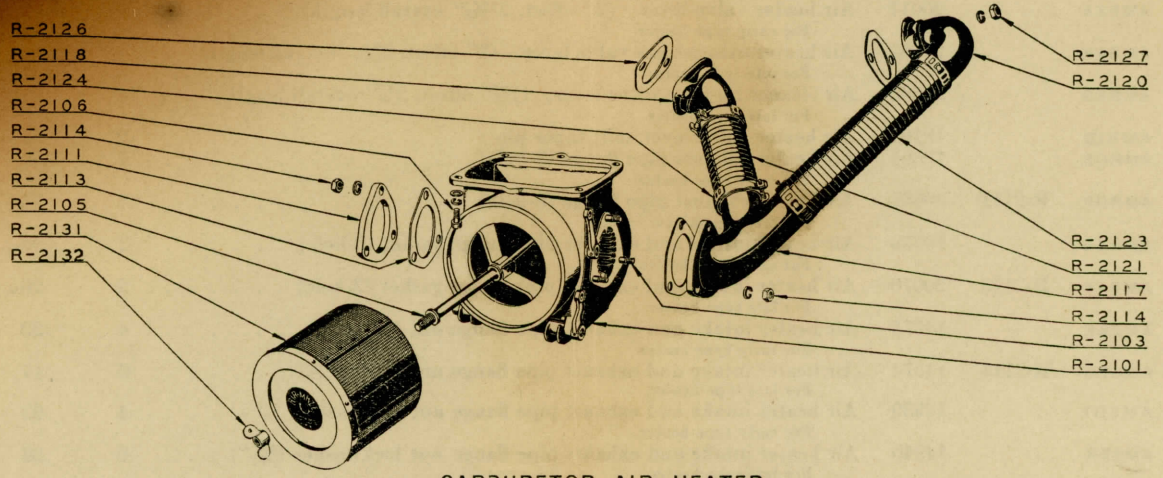
AIR HEATER

...52 Carburetor air heater and cleaner assembly 1 $78.00

Includes:
Heater assembly.
Cleaner assembly.
Flexible pipes.

This assembly supersedes the earlier assembly which did not include an air cleaner. The earlier assembly is not supplied.

This complete assembly is *not* required to install an air cleaner on one of the earlier engines. Instead, use assembly 40231 listed below.



CARBURETOR AIR HEATER

Engines factory equipped with the earlier assembly are as follows:

7070—7209	7684—8056	8597—8646
7239	8073—8585	8929—9238
7284—7676		

AMPOV 40231 Carburetor air heater and cleaner change-over assembly 1 65.10*

Includes all new parts required to install air cleaner on engine originally equipped with heater only.

This assembly is sold to replace the early type heater on J-5 engines for the special price of $32.55 provided the serial number of the engine on which the installation is to be made is given on the order.

AMPPA R-2101 40154 Carburetor air heater only 1 47.50

This is the late type of heater to which can be attached an air cleaner. It has a heating capacity 50% greater than the early type heater.

The early type heater is not supplied. If replacement is required, use the replacement assembly 40231 at the special replacement price given above.

CARBURETOR AIR HEATER AND CLEANER—C

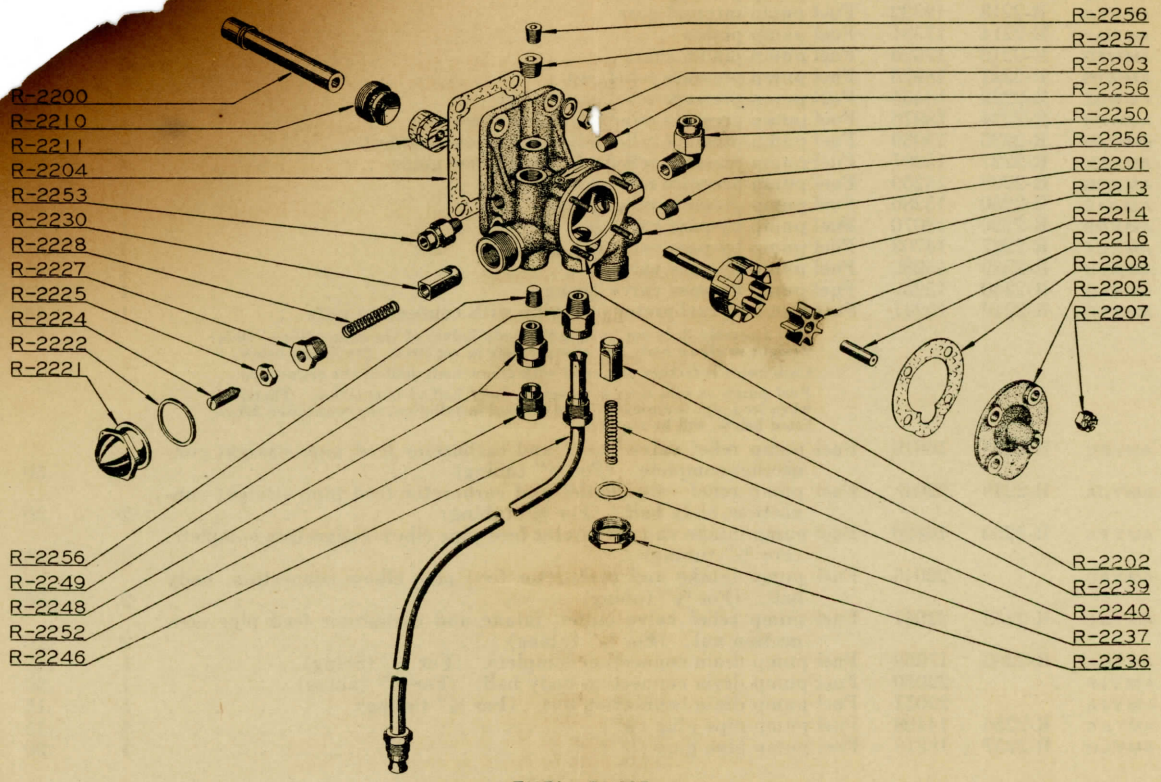
Code Word	Reference Number	Drawing Number	Description of Part		
			AIR HEATER—Cont'd		
AMPRI	R-2103	19367	Air heater intake and exhaust flange stud (3/8" x 16–24 x 1¾") For early type heater.		
AMPSI		21806	Air heater intake and exhaust flange stud (5/16" x 18–24 x 1⅜") For late type heater.		
AMPTO	R-2105	21876	Air cleaner support stud	1	
AMPUK	R-2106	14837	Air heater to carburetor screw (¼" x 20 x 9/16")	6	
AMPVO		14994	Air heater to carburetor screw beveled washer	6	.05
AMPYL		14941	Air heater to carburetor screw lockwasher	6	.02
AMPZA		20617	Air heater valve lever. (2" offset, 2 17/32" overall length) For early type heater.	1	.85
AMRAK		21687	Air heater exhaust gas valve lever. (2" offset, 2 9/16" overall length) For late type heater.	1	.85
AMREG		21665	Air cleaner by-pass valve lever. (1½" offset, 2⅛" overall length) For late type heater.	1	.75
AMRID		18101	Air heater valve lever split taper pin	2	.04
AMROB		19361	Air heater exhaust pipe flange (2-hole) For early type heater.	1	1.50
AMRUP	R-2111	20069	Air heater exhaust pipe flange (3-hole) For late type heater.	1	.75
AMRYE		19353	Air heater intake and exhaust pipe flange gasket (2-hole) For early type heater.	2	.05Q
AMSAP	R-2113	20070	Air heater intake and exhaust pipe flange gasket (3-hole) For late type heater.	2	.20Q
AMSBE		14575	Air heater intake and exhaust pipe flange nut (3/8" x 24) For early type heater.	4	.20
AMSCO	R-2114	14574	Air heater intake and exhaust pipe flange nut (5/16" x 24) For late type heater.	6	.17
AMSDI		14939	Air heater intake and exhaust pipe flange nut lockwasher (3/8") For early type heater.	4	.02
AMSEK		14940	Air heater intake and exhaust pipe flange nut lockwasher (5/16") For late type heater.	6	.02
AMSFU		13916	Air heater intake flange connection For early type heater.	1	5.75
AMSGO	R-2117	40151	Air heater intake flange connection For late type heater.	1	6.90
AMSHA	R-2118	13853	Air heater cylinder flange connection to No. 5 cylinder	1	4.25
AMSIC	R-2120	13912	Air heater cylinder flange connection to No. 6 cylinder	1	4.25
AMSJA	R-2121	20682	Air heater intake flexible pipe to No. 5 cylinder (9½" long)	1	1.60
AMSKI	R-2123	20712	Air heater intake flexible pipe to No. 6 cylinder (11" long)	1	2.20
AMSLE	R-2124	20373	Air heater intake flexible pipe clamp complete	4	.15
AMSMY		20634	Air heater intake flexible pipe clamp screw	4	.05
AMSNU	R-2126	19353	Air heater intake connection gasket, cylinder end	2	.05Q
AMSOT	R-2127	14575	Air heater intake connection nut (3/8" x 24), cylinder end	4	.20
AMSPA		14939	Air heater intake connection lockwasher, cylinder end	4	.02
			AIR CLEANER		
AMSWY	R-2131	21714	Air cleaner. (Air-Maze)	1	10.70
AMSYU	R-2132	K-17-A	Air cleaner support stud wing nut	1	.10

Description of Part	Number Used	Price Each

FUEL PUMP

Fuel pump complete. (Wright) 1 $77.50

For an original installation, this pump requires an adapter shaft (18852) which is not included under Drawing No. 13819.
Another type of fuel pump (Model C-5 Modified) is listed as an assembly on page 2101.



FUEL PUMP

AMUUM	R-2200	18852	Fuel pump adapter shaft	1	3.70
AMUVO	R-2201	40889	Fuel pump body	1	27.00
AMUWY	R-2202	15586	Fuel pump cover stud (¼″ x 20–28 x 1 3/32″)	4	.20
AMUXA	R-2203	14574	Fuel pump to crankcase nut (⅜″ x 24)	4	.17
AMUYB		14995	Fuel pump to crankcase nut washer	4	.05
AMUZU	R-2204	18294	Fuel pump to crankcase gasket	2	.03Q

FUEL PUMP—Cont'd

Code Word	Reference Number	Drawing Number	Description of Part		
AMVAH	R-2205	18444	Fuel pump cover		
AMVEP	R-2207	15565	Fuel pump cover nut (¼" x 28)		
AMVIV	R-2208	18295	Fuel pump cover gasket		
AMVOP	R-2210	19323	Fuel pump packing nut		
AMVUG	R-2211	19324	Fuel pump packing		
AMVYK	R-2213	19322	Fuel pump internal gear		
AMWAP	R-2214	17331	Fuel pump pinion	1	
AMWED	R-2216	17329	Fuel pump pinion shaft	1	
AMWIG	R-2221	18975	Fuel pump pressure relief cap	1	1.20
AMWOZ	R-2222	18455	Fuel pump pressure relief cap gasket	1	.03Q
AMWUN	R-2224	18976	Fuel pump pressure relief adjusting screw	1	.15
AMWYM	R-2225	19039	Fuel pump pressure relief adjusting screw lock nut	1	.17
AMXAX	R-2227	15287	Fuel pump pressure relief adjusting screw guide	1	.70
AMXEG	R-2228	15259	Fuel pump pressure relief spring	1	.25
AMXIZ	R-2230	15286	Fuel pump pressure relief valve	1	.95
AMXOB	R-2236	18070	Fuel pump by-pass valve cap	1	1.00
AMXUF	R-2237	14703	Fuel pump by-pass valve cap gasket	1	.03Q
AMXYK	R-2239	15286	Fuel pump by-pass valve	1	.95
AMYAG	R-2240	15259	Fuel pump by-pass valve spring	1	.25
AMYBO	R-2246	40241	Fuel pump to carburetor feed pipe with connecting nuts	1	4.10
			This assembly does not include the body halves of the connections. Order straight or elbow body halves separately as required. See listing below.		
			Carburetor is factory equipped with elbow body half of the connection.		
			Fuel pump as sold does not contain body half of connection. Therefore, when feed pipe is required for an original installation, the connection 22048, listed below, will be required.		
AMYCU	R-2248	16819	Fuel pump relief valve outlet and carburetor feed pipe straight connection complete. (For ⅜" tubing)	2	.50
AMYDA	R-2249	22048	Fuel pump relief valve outlet and carburetor feed pipe straight connection, body half. (For ⅜" tubing)	2	.30
AMYEK	R-2250	16820	Fuel pump intake and carburetor feed pipe elbow connection complete. (For ⅜" tubing)	2	.55
AMYFO		22046	Fuel pump intake and carburetor feed pipe elbow connection, body half. (For ⅜" tubing)	2	.35
AMYGE	R-2252	22047	Fuel pump relief valve outlet, intake and carburetor feed pipe connection nut. (For ⅜" tubing)	2	.20
AMYHA	R-2253	17358	Fuel pump drain connection complete. (For ¼" tubing)	1	.45
AMYIP		22050	Fuel pump drain connection body half. (For ¼" tubing)	1	.30
AMYJA		22051	Fuel pump drain connection nut. (For ¼" tubing)	1	.15
AMYKA	R-2256	14408	Fuel pump pipe plug (⅛")	4	.15
AMYLO	R-2257	18818	Fuel pump pipe plug (¼")	1	.20

PRIMING PUMP

Two systems of engine priming have been used on J-5 engines.

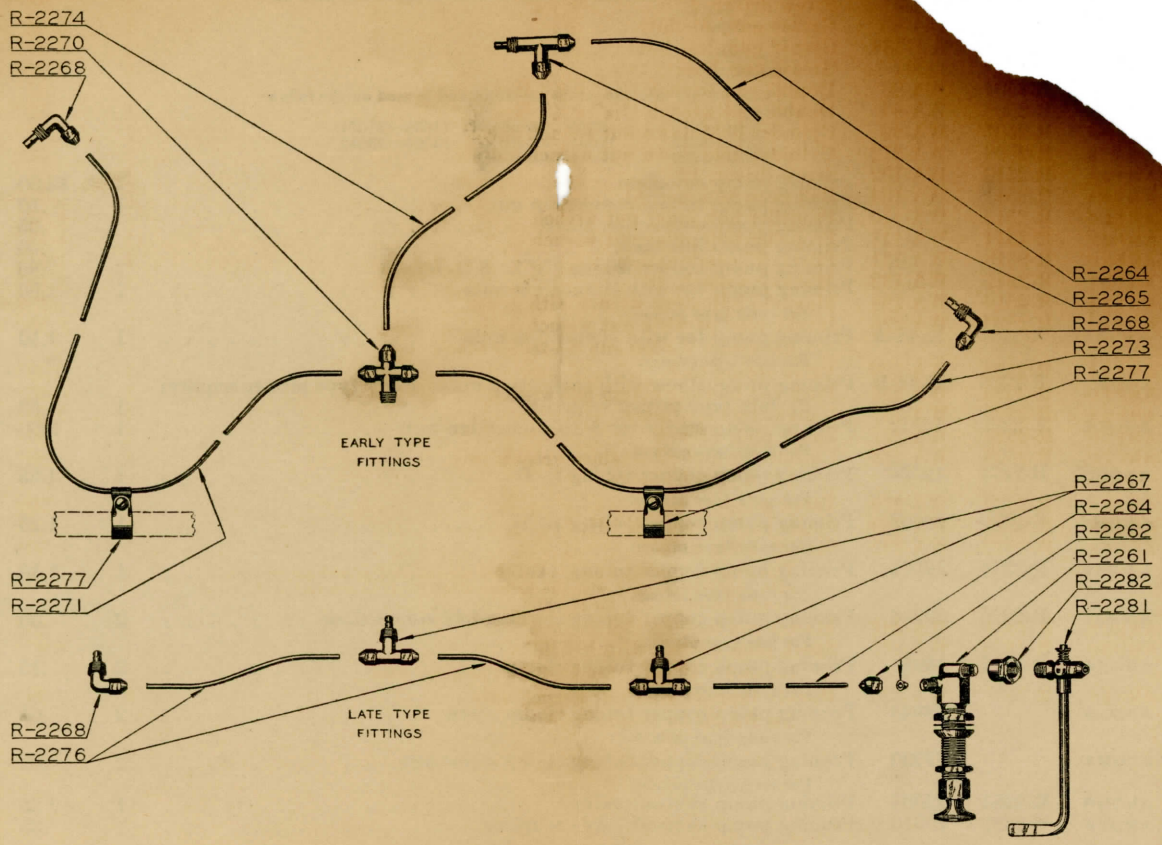
The early type primes into three of the cylinder heads and is used on the following engines:

7070—7209
7239
7282—7294
7303—7339

The late type primes into the intake manifold and is used on the following engines:

7340—7676, 7684—8752, 8929—9522, 9630—10069, 10091—10129, 10911—10996, 11659—11674, 13593—13642

			Description of Part	Number Used	Price Each
ANCYO	R-2261	22132	Priming pump complete	1	$3.60
ANDAM	R-2262	40242	Priming pump tubing connection nut	7	.10
ANDAR		22059	Priming pump connection gland		.05
ANDAX		K-48-C	Priming pump line tee		.60
ANDBE	R-2264	18999	Priming pump copper tubing (⅛"). 8 ft. length	1	.80
ANDCO	R-2265	19597	Priming pump tee with connection nuts For early type primer.	1	1.90
ANDDA	R-2267	K-48-A	Priming pump tee with connection nuts For late type primer.	1	1.10
ANDEX	R-2268	K-48-B	Priming pump elbow with connection nuts. Early type primer requires 2; late type primer requires	1	.50
ANDFE	R-2270	18942	Priming pump center tee with connection nuts For early type primer.	1	3.00
ANDGO	R-2271	19570	Priming pump copper tubing L. H For early type primer.	1	1.25
ANDHI	R-2273	19569	Priming pump copper tubing R. H. For early type primer.	1	1.25
ANDIS	R-2274	19571	Priming pump copper tubing, center For early type primer.	1	1.10
ANDJI	R-2276	20346	Priming pump copper tubing for manifold connections For late type primer.	2	.30
ANDKA	R-2277	18941	Priming pump copper tubing clamp For early type primer.	2	.15
ANDLO		18943	Priming pump copper tubing clamp screw For early type primer.	2	.05
ANDMA		17230	Priming pump copper tubing clamp screw nut For early type primer.	2	.02
ANDOR	R-2281	22008	Priming pump shut-off valve	1	2.25
ANDPA	R-2282	22010	Priming pump shut-off valve coupling	1	.35



PRIMING PUMP WITH FITTINGS

		Description of Part	Number Used	Price Each
		ACCESSORIES		
		Generator, 15-ampere, 15-volt. (Eclipse, Type G2, Model 2162) . .	1	$220.00*
		Includes watertight control box (Type CB-2). Weight 17 lbs.		
		For detail parts of this generator, see Parts List issued by Eclipse Machine Co., East Orange, N. J., and order direct from Eclipse.		
	22163	Generator, 25-ampere, 15-volt. (Eclipse, Type D2, Model 2164) . .	1	230.00*
		Includes watertight control box (Type CB-2). Weight 22 lbs.		
		For detail parts of this generator, see Parts List issued by Eclipse Machine Co., East Orange, N. J., and order direct from Eclipse.		
AOBNA	40287	Generator drive parts assembly	1	370.00
		This assembly contains all of the parts required to install a generator except the crankshaft as described below. It includes the following parts:		
		40215 Crankcase, rear section 1		
		20103 Generator drive cover 1		
		20104 Generator drive cover gasket 1		
		16782 Generator drive cover slotted nut (5/16"–24 x 1 7/64") . . . 4		
		11705 Generator drive cover washer 4		
		20434 Generator drive pinion shaft 1		
		20437 Generator drive pinion shaft Woodruff key 1		
		20435 Generator drive pinion 1		
		20440 Generator drive pinion washer 1		
		15882 Generator drive pinion nut 1		
		20433 Generator drive gear 1		
		20439 Generator drive gear key 1		
		The standard crankshaft has no keyway for generator drive gear. Either a keyway must be cut in the standard crankshaft, for which operation blueprints may be obtained from this company; or crankshaft 40247, having a generator drive keyway, must be substituted. In the latter case, attention is drawn to the important note on page 501 regarding the change in design of the late type crankshafts.		
AOHAF	13966	Fuel pump (Modified C-5 type)	1	60.00
		For standard original installation, the following parts are required:		
		18852 Fuel pump adapter shaft 1 $3.70		
		40299 Carburetor feed pipe with connecting nuts . . . 1 4.10		
		22046 Fuel pump outlet elbow . . . . . 1 .35		
		22166 Fuel pump reducing bushing . . . . . 1 .85		
		The carburetor feed pipe (40299) will not be required when fuel is pumped from main to gravity tank.		
AOJAP	13890	Hand direct-geared starter. (Eclipse, Type 1HB6, Model 1931) . . .	1	265.00*
		Includes:		
		Integral booster magneto. (Splitdorf.)		
		Hand crank.		
		Hand crank extension.		
		When used on the following engines, drive gear bolt 17177 must be replaced by bolt 21657. No oil slinger is used. See page 401 for listing of drive gear bolts and jaw clutches.		
		7070—7209 7627—7676 8074—8153		
		7239 7684—7774 8597—8752		
		7282—7614		
		When used on the following engines, which have jaw clutch 21166 as standard equipment, no change is necessary. No oil slinger is used.		
		8073 8929—9367 10911—10996 13593—13642		
		8154—8570 9630—9995 11659—11674		
		This starter is designed to crank engine by hand power through gearing of 6 to 1 ratio. The starter meshes automatically with the splines in the accessory drive gear, a torque overload release preventing damage to mechanism or injury to operator in case of engine backfire. Weight each, including hand crank and extension, 32½ lbs.		
		For detail parts of this starter, see Parts List issued by Eclipse Machine Co., East Orange, N. J., and order direct from Eclipse.		

Code Word	Reference Number	Drawing Number	Description of Part		

ACCESSORIES—Cont'd

AOKAY — 40043 — Hand inertia starter. (Eclipse, Series 6, Model 2026). . .

Includes:
Hand crank.
Hand crank extension.

When installing hand inertia starter on the following engines, use jaw clutch 19713 with drive gear bolt 19712. See page 401 for listing of drive gear bolts and jaw clutches.

7070—7209	7684—7774
7239	8074—8153
7282—7614	8597—8752
7627—7676	

On the following engines, jaw clutch 21166 is standard equipment and will fit all types of Eclipse starters.

8073	8[illegible]-9367	10911—10996	13593—13642
8154—8570	9[illegible]-9995	11659—11674	

The inertia type of starter depends for operation upon the storage of energy in a small flywheel which is brought up to a high speed by operation of a hand crank. The high speed is attained through multiple gearing. The energy thus stored in the fast spinning flywheel is then applied to the engine crankshaft through a clutch controlled by a small lever; a torque-overload release is included in the mechanism to protect both starter and operator in case of engine backfire. The starter is automatically disengaged from the engine the moment the engine fires.

Weight each, including hand crank and extension, 22 lbs.

For detail parts of this starter, see Parts List issued by Eclipse Machine Co., East Orange, N. J., and order direct from Eclipse.

AOLAX — 40099 — Combination hand and electric inertia starter. (Eclipse, Series 6, 12-volt, Model 2039—2013) . . . . . 1 — 450.75*

Includes:

Starter. (Price includes hand crank and extension.) . . .	$435.00
Weight 24¼ lbs.	
Hand crank.	
Weight 2¾ lbs.	
Hand crank extension.	
Weight 1¾ lbs.	
Solenoid switch	12.50
Weight 3 lbs.	
Push-and-pull switch	3.25
Weight 2½ oz.	

This starter differs from the hand inertia starter only in the fact that an electric motor is built into the rear of the starter housing and is used instead of the hand crank to accelerate the starter flywheel.

For single starter installations, a 13-plate, 12-volt, aviation type storage battery, weighing 34 lbs., is recommended; for multiple starter installations, a 19-plate, 12-volt aviation type battery, weighing 63 lbs., is recommended. The combination of the push-and-pull switch located in the pilot's cockpit and the solenoid switch integrally mounted on the starter gives the pilot complete control of the starter from the cockpit.

This starter may also be operated with a hand crank in exactly the same manner as the hand inertia starter.

For detail parts of this starter, see Parts List issued by Eclipse Machine Co., East Orange, N. J., and order direct from Eclipse.

QUANTITY PRICES

...an be returned for credit only in the original unbroken packages

	Description of Part	Unit Price	Size of Package	Package Price
	...ug gasket	$ .02	100	$ 1.50
	...ilter cover gasket	.04	100	3.35
	...rankcase breather cover plate gasket	.02	100	1.50
	Oil pressure relief valve gasket	.02	100	1.65
	Oil filter and oil retainer plug gasket	.03	100	2.50
	Spark plug, AC—Type N	1.25	300	337.50
...3	Fuel pump by-pass valve cover gasket	.03	100	2.25
...11	Oil hose connection and oil strainer cap g...	.02	100	1.65
...007	Oil drain pipe gasket	.03	100	2.25
4922	Breather and inspection plug gasket	.03	100	2.25
4981	Starter cover plate gasket	.07	100	5.25
16889	Intake manifold end gasket	.05	100	3.75
17203	Oil pressure pump gasket	.04	100	3.00
17208	Fuel pump adapter gasket	.03	100	2.25
17269	Tachometer gear housing gasket	.03	100	2.25
17348	Intake manifold center gasket	.06	100	4.50
18115	Intake pipe rubber packing	.15	100	10.00
18294	Fuel pump adapter cover plate gasket	.03	100	2.25
18295	Fuel pump cover gasket	.03	100	2.25
18347	Magneto drive adapter gasket	.02	100	1.50
18455	Fuel pressure relief valve cap gasket	.03	100	2.40
19353	Exhaust flange gasket	.05	100	3.75
19418	Intake flange gasket	.04	100	3.00
19572	Carburetor flange gasket	.12	100	9.00
20070	Air heater intake and exhaust flange gasket	.20	50	7.50
20104	Generator cover plate gasket	.04	100	3.00
20164	Ignition wire, high tension. "Airtite." Per foot	.12	500 ft.	52.50
20342	Push rod housing packing	.05	100	4.20
40027	*Complete set of gaskets for J-5 engines.* *This set contains all the gaskets required to completely rebuild any J-5 engine.*	2.75	10	24.50